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Giving the Worker a Card-Index Rating

Bowser Company Marks Employees Monthly on Ten Points—Records a Basis for Promotions—Drills Foremen in Good Judgment

BY FRANK H. WILLIAMS

AN employees' rating system, such as that used by S. F. Bowser & Co., Inc., Fort Wayne, Ind., manufacturer of storage systems for oil and gasoline, puts in black and white the good and bad features of a workman's character or work, stimulates competition among the employees, affords a basis for promotion and quickens the powers of observation and judgment of the foremen who perform the rating.

Where a rating system is in effect there is no guess work in determining who should be given higher pay. A man's value to the company appears in specific form on his rating card. And from the card the proper executives can determine whether or not a man should be raised.

And if a man isn't raised and wants to know why the information in definite form can be shown to him by the executive.

The rating system at the Bowser plant was put into effect on Sept. 15, 1920. The following notice was sent to all division and factory department heads:

1. Effective Sept. 15, 1920, factory form No. 605 (the employees' rating card) will be made out on or before the fifteenth of each month and sent to the employment department immediately.

2. Foremen or sub-foremen in immediate charge over the men should make the monthly rating, which in turn will be checked by the foremen or superintendent in charge.

3. The person making monthly employee's rating should study carefully and know the qualities of every man under his charge. A comparison of the man being rated with a first-class man in the same kind of work will aid the estimator.

4. Additional copies of form No. 605 can be secured through the employment office. Factory form No. 603, which is a year's summary of employees' ratings, may be used by division superintendents and may be secured through the employment office.

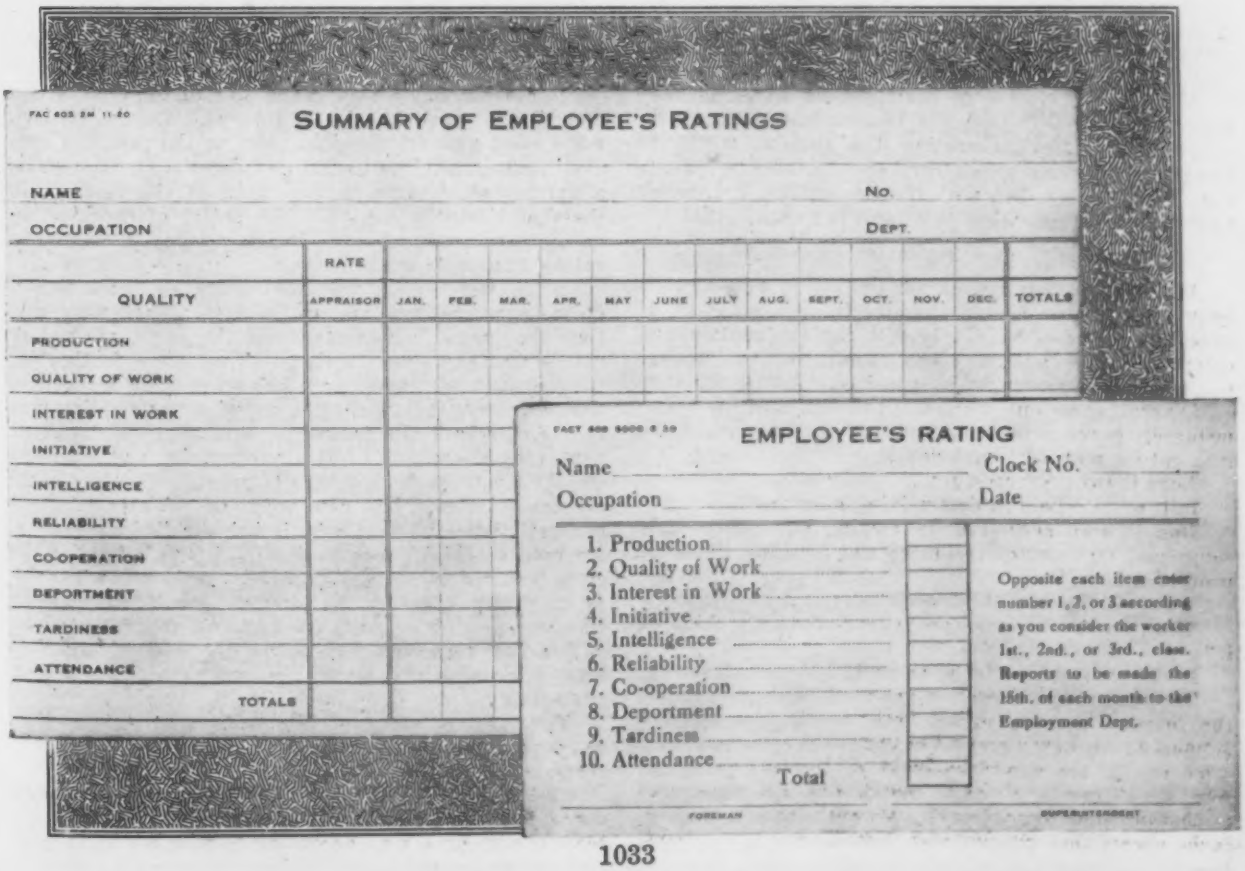
5. The following are the ten items on which the employee is to be rated and the following explanation is made to clarify them:

Production

A fair day's work under normal conditions would entitle a man to first-class rating.

Quality of Work

If 100 per cent of the worker's production passes inspec-



FAC 603 2M 11-20

SUMMARY OF EMPLOYEE'S RATINGS

NAME ____ No. ____

OCCUPATION ____ DEPT. ____

QUALITY	RATE APPRAISOR	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTALS
PRODUCTION														
QUALITY OF WORK														
INTEREST IN WORK														
INITIATIVE														
INTELLIGENCE														
RELIABILITY														
CO-OPERATION														
DEPORTMENT														
TARDINESS														
ATTENDANCE														
TOTALS														

FACT 600 5000 8 20

EMPLOYEE'S RATING

Name ____ Clock No. ____

Occupation ____ Date ____

1. Production
2. Quality of Work
3. Interest in Work
4. Initiative
5. Intelligence
6. Reliability
7. Co-operation
8. Deportment
9. Tardiness
10. Attendance

Total

Opposite each item enter number 1, 2, or 3 according as you consider the worker 1st., 2nd., or 3rd., class. Reports to be made the 15th. of each month to the Employment Dept.

FOREMAN ____ SUPERINTENDENT

tion and if it is accepted he is entitled to first-class rating.

Interest in Work

Strict attention to instructions, to the task and the desire to master the job indicates interest in work.

Initiative

The degree of originality and inventiveness which the worker brings to bear upon problems directly or indirectly connected with his work. This quality is found in only a small per cent of workers.

Intelligence

The quickness and thoroughness with which a worker grasps and executes.

Reliability

The accuracy and care with which a worker carries out his duties and tasks.

Co-operation

The willingness and cheerfulness shown by the worker in team-work and in accepting orders.

Deportment

The conduct of the worker pertaining to company rules, regulations and instructions.

Tardiness

Perfect record for single month	1
1 to 4 times tardy for single month	2
5 or more times tardy for single month	3

Attendance

Perfect record for single month	1
1 to 20 hours absence for single month	2
20 or more hours absence for single month	3

The Purpose of Monthly Rating

a. To aid in the logical promotion of men.

b. To show why workers are rerated.

c. To show why workers are not rerated.

d. To indicate the type of training needed to improve the worker.

e. To aid the foreman in analyzing his men—thus to be better able to place him on the right job.

The exact method of rating the workers is told on each card in the following words:

Opposite each item enter number 1, 2 or 3, according as you consider the worker first, second or third class.

In other words, the worker with the smallest total is the man who has the highest record. The smallest total that any man could get is 10—one for each of the ten items. And the poorest rating that any worker could receive is 30, three for each of the ten items.

Each employees' rating card bears space for his name, occupation, clock number and the date, while there is space at the bottom of the card for the signatures of the foreman and superintendent.

Of course, in every rating system there is always more or less question as to whether the items included in the rating are all that should be included and whether or not the proper terms in designating the exact thing that is to be rated, have been used. For instance, in this present rating system there might be some question over the term Deportment. Deportment, without the explanation made in starting the system, might be thought to mean a man's carriage, his manner of tipping his hat, etc. But with the explanation it becomes perfectly clear just what this term is meant.

Simplicity of Compilation Aimed At

While no rating system can be called perfect it is believed that the system at the Bowser plant is as practical as possible. It is felt that it contains all essential things and that the keeping of the ratings has been made as simple as possible.

Several questions regarding this system will immediately occur to any plant executive who is interested in a rating plan for employees:

Does it work successfully?

Is it of real help in determining advances?

Has it been successful in picking any particularly competent men out of the mass and marking them for promotion?

What do the men think of it?

What do the foremen and superintendents think of it?

Is the company satisfied and will it be continued?

The plan at the Bowser plant works splendily where the foremen are thoroughly "sold on the proposition." In most of the departments the cards are conscientiously filled out by the superintendents or foremen on or before the fifteenth of each month and are then sent to the personnel department. An examination of these cards shows that considerable intelligence is displayed by most of the plant sub-executives in rating the men. It is only rarely that a foreman rates a man's initiative as No. 1. In most instances the rating given a worker on this particular point is No. 2 or No. 3. And where a man is consistently given a rating of No. 1 on initiative, the personnel director, J. O. Steendahl, immediately investigates. Either the man is a top notcher along this line or the foreman is at fault. One or two instances have occurred where men have been pushed to better departments by means of these cards.

In one particular instance a man was noticed by Mr. Steendahl because his card was always given a total grade of 10 or 11. His initiative was always graded No. 1. On the face of it there seemed to be something wrong. It did not seem possible that this particular man, if he was such an excellent worker, could remain almost unnoticed in his department. So the factory engineer was sent to interview the foreman regarding the man. Here is the report of the factory engineer:

"I spoke to ——, the foreman, regarding this man and he pointed him out to me and said he was a good man. But I do not think he is the right sort for promotion to our methods department."

When this report came to the personnel director he had an interview with the factory engineer.

"You don't get the point," said the personnel director. "Interview the man himself, get under his hide, find out what he's like by your own investigation and report to me."

This was done with the result that the man was found to be splendidly well qualified for an advance, which he immediately secured.

The Plan Sizes Up Foremen

The plan also gives the company executives a check on the foremen. Under the law of averages about 60 per cent of the workers receive average ratings of about 15, 16, 17, or 18. In fact, the personnel department has found that an average lot of 100 men will divide about like this: 2½ per cent, excellent; 15 per cent very good; 65 per cent, average; 15 per cent, poor; 2½ per cent, should be dismissed.

When a foreman sends in cards for his men with all of the men receiving ratings of 10, 11 or 12, the personnel department immediately starts an investigation. One particular department, the methods department, for instance, always sends in cards rated in that fashion. But there is a reason for this as this department has the cream of the shop. But where another average department sends in a report where out of 65 men, for instance, all but three are rated as above the average, then it is certain that the foreman is a poor judge of men, has a poor conception of the quality and quantity of work he should turn out and is, in fact, not a good man for the job. And as the result of several foremen sending in cards of this sort continuously, a number of changes in the ranks of the foremen in the shop has occurred. So this matter of checking up on the foremen is one very important way in which the rating system is a big success.

When the system was first installed there was a quite eager response among the men. They were told that they were being rated and the exact method of rating was explained to them. They were further informed that the cards were open for their inspection, that whenever they wished to see what their rating was they simply ask the foreman. And many of them, at first, took advantage of this opportunity and asked to see their ratings from month to month. But this early universal interest has now worn off. These requests generally come when a man is being called down by a foreman or thinks that he is due for an advance. In such instances they are generally satisfied with the ratings given them by the foreman, particularly as the foreman is always ready to back up the rates given with actual reasons for so rating the man. There has been no complaint among the men about the rating system.

The foremen and superintendents seem to feel that the system is a real help to them. Here is the way one foreman put it:

"I find it is a help to me because it makes me put down, in black and white, just what a man is. When I have to size up a man according to whether he is first,

second or third class on all those points, I naturally look at him more carefully and think him over more thoroughly than I would otherwise. And this enables me to get a better line on the men and to better determine what they can do best."

Another foreman said: "It is a big help to pull out a man's rating card and show him by figures just where he has fallen down. There's something about a card record of a man's work that he can't get away from. He'll say, for instance, 'Why are you putting me down as No. 2 on production. Isn't my production O. K.?' Then I'll tell him how he's slowed up on some job or how he's loafed around and he generally admits that I'm right about the matter. Or again I can take a man aside and tell him that he might be in line for promotion if he'd only show a better spirit of co-operation and I show him his card with good marks for everything but that. It's a real help to me in my department and I want to see it continued."

Suggested Changes in the System

Of course where the reaction to the system is so good and where it is such a help to the personnel department in getting a line on the men and the foremen the company itself is much pleased with the system. There is no doubt that the system will be continued, although there may be some changes made in the card. For instance, it is possible that a fourth class will be added. Often it occurs that a worker, while not perfect, is yet much better than a second class man. And a fourth classification would allow a differentiation greater than that of excellent, good and bad.

The cards are not as perfect as they might be because under this system of rating all of the ten points on the card are given an equal importance. For instance, production is given no greater prominence than deportment. And quality of work and interest in work rank no higher than co-operation and tardiness. According to Mr. Steendahl, the card should be arranged on a percentage basis—production ranking as 25 per cent of total importance, quality of work a similar percentage, interest in work a large percentage and deportment, etc., a much smaller percentage. But to do all this would make the card so complicated that many foremen would be unable to fill it out properly. So the card was made as simple as possible. Upon the ratings on these cards the management has quite largely based its dismissal of a number of men who did not measure up in efficiency.

The company has been running full time and at full pay, so that no cuts or furloughs have been necessary and so the cards have not been called into use in such an emergency, but would undoubtedly prove a big help in such a case.

Reasons Why Foundry Iron Should Be Sand Cast

What Limits the Use of Machine Cast Iron for All Purposes—Pneumatic Hammer Breaking

BY J. P. DOVEL*

THE casting of pig iron was always done in the open sand until the manufacturers of steel commenced casting in metal molds in order to eliminate the silica that adheres to the surface of the pigs, this silica being objectionable in the steel furnaces. This contention has become so general that all purchasers of commercial basic or Bessemer iron would require in their specifications that the iron be cast in chills or on casting machines.

The reason given does not apply to the casting of foundry iron, as the small amount of sand sticking to the surface of the pigs would do no harm at all. It would, of course, add some weight to the iron that would be of no practical value, but all makers take care of this feature by allowing the gross ton of 2240 lb., being about 18 lb. per ton for sand, or practically 1 per cent, and it is not likely that sand cast irons carry 1 per cent of sand into the cupola.

Sand cast iron in appearance presents a rough surface; whatever dirt, sand or kish it carries is always on the outside, none ever showing on the inside. Machine cast iron in appearance presents a smooth surface. The casual observer would believe that it is very clean iron, but on close examination it will be found that large quantities of kish have been actually inclosed within the pig. This kish and dirt that would generally stop in the runner, or float on the surface, in sand cast methods is being inclosed in the pig in machine cast methods. It seems that this condition could be relieved to some extent by some practical skimming method or by the use of a long runner in the sand before going into the ladle. This latter method would be a little out of line with machine practice, as it would mean the return of more scrap to the furnace. This, of course, nobody prefers, but it would certainly be better practice than to let the kish and dirt be molded into the pigs and charged into the cupola where it may cause trouble in the foundry and in the finished castings.

Another reason why melters of foundry iron do not prefer machine-cast pig is probably the chilling effect that the metal mold has on the molten cast iron. This principle is the thing that makes it possible to produce a good car wheel from cast iron, and is also the principle that makes it impractical to mold commercial castings in metal molds. The principle is well understood by foundrymen, and under it we must admit that iron cannot be molded in metal molds without materially lowering the grades, which consists in changing a part of the graphitic carbon to fixed carbon. Such a change would be permissible only to a limited extent, as the relation of fixed carbon to graphitic carbon content of foundry iron is the chief item in deciding value.

It would be impossible to make a good casting with the carbon content wrong, no matter what the analysis of silicon, sulphur, phosphorus and manganese may be. In making this statement I do not wish to be understood to say that I would recommend ignoring the analyses of sulphur, silicon, phosphorus and manganese, all of which are highly important and should be correct for the various purposes for which they are required. But I do say that the state of the carbon may be fatal to good foundry practice and that methods that tend to interfere with the proper ratio of fixed and graphitic carbons should be avoided, no matter whether it is bad practice in casting or bad practice in furnace methods generally.

The large output of our modern furnaces and the shortage of labor of the kind for handling of pig iron in the old way has made it imperative to find a better way to do this work of casting and handling. The pig casting machine has come along with its labor saving advantages and filled this place splendidly for steel making irons. The pneumatic hammer has come into use recently for breaking sand cast into pieces of desirable sizes, which was about impossible by the old method of breaking by hand.

The sales departments of commercial foundry furnaces have had more complaints from customers about iron not being properly broken than all other causes combined. There is at the present time a feeling among foundrymen that iron should be charged into the cupola in smaller pieces than is commonly the case, to insure a quicker and more uniform melt. This would apply especially to the high grades that are used extensively in the mix as corrections for off grades or cheaper grades. This condition can be met nicely by the pneumatic hammer system of breaking.

*Furnace manager Sloss-Sheffield Steel & Iron Co., Birmingham.

Bargaining Provisions are Strongly Urged

Consolidated Steel Corporation Shows Importance of Safeguarding Interests of Steel Producers and Exporters—Retaliatory Measures

BY L. W. MOFFETT

WASHINGTON, April 19,
THE IRON AGE BUREAU,
816 Fifteenth Street.

QUICK passage last week by the House of Representatives of the emergency tariff bill, with which was consolidated anti-dumping and exchange rate legislation, is taken as an indication of similar action on the part of the Senate, which hopes to enact the same legislation after brief hearings. Even more broadly, it is taken to be an example of expedition which the Congress and Executive have in mind in acting on permanent tariff legislation, expected to be introduced in the House early in May. The attaching of the exchange and anti-dumping bills to the emergency act, which affects agricultural products, was done with a view of getting quick results. The anti-dumping bill is largely similar to the Canadian anti-dumping law of 1904 and the South African Customs Union of 1914, now in effect. The principle underlying the additional duty to be added in prevention of dumping, particularly where the tariff valuations are upon foreign market values, is to add such an amount of duty as will equalize sales at less than the foreign home market value or foreign export value or cost of production with profit added, whichever may be the highest, thereby making it unprofitable to dump goods on the markets of the United States at lower prices. If the seller of the goods is compelled to add as duty the difference between the sales price and what he would receive by selling in the otherwise highest obtainable market, all reward or inducement to dumping, it is held, is removed.

Exchange Provision

The exchange provision limits currency depreciation to 66 2/3 per cent of the normal value and, it is claimed, will make it possible to collect at least some portion of duties which Congress intended to impose on importations. The anti-dumping feature is expected to go in the permanent act substantially in the form in which it passed the House. It remains to be seen whether the exchange provision will be made permanent. It has been intended as a substitute for the proposed American valuation plan, but some prominent members of the House Committee on Ways and Means have said they will insist on American valuation legislation.

Meanwhile, the metal schedule of the permanent act has been practically completed tentatively. Representative Tilson, chairman of the subcommittee on metals, who drafted the schedule, said that he expects to report it to the full committee some time this week, after it has been passed upon by other members of the subcommittee. It is not likely that specific recommendations as to duties will be made known until the bill is reported to the House by the full committee.

Bargaining Provision

The question of duties in and reclassification of the metal schedule while naturally being given great importance by the iron and steel trade is not the sole feature that is attracting close attention. The administrative features are sharing prominently in their observations. These are to be prepared by the full committee and it is said that considerable study has been given to them by Chairman Fordney. It is believed that, among other things, he is favorable to the bargaining provision, along the line which was suggested in a brief filed with the committee by the Consolidated Steel Corporation, organized under the Webb-Pomerene export act and comprised of prominent independent steel companies.

The Corporation has pointed out that it believes that the increasing importance of foreign trade to prosperity of the United States now makes necessary the broadening of the tariff policy in such a way that it will safeguard the interests of domestic manufacturers and merchants in all markets of the world.

"To accomplish this end the Consolidated Steel Corporation wishes to urge the Committee on Ways and Means to act favorably," says the brief, "on the recommendation presented by the National Foreign Trade Council, that the President shall be given power, upon certification to him by the Tariff Commission or such other agency as Congress may prescribe, either to grant concessions in return for favorable treatment of American products or to impose penalties on account of discrimination against or unequal treatment of American products, such concessions or penalties to be within limits fixed by the Congress."

The brief, which is signed by Walter S. Tower, says that a bargaining tariff would safeguard the foreign trade interests of steel producers and steel exporters in two ways. First, it is stated, there are certain raw materials, such as manganese, vanadium, nickel, tin, and palm oil, essential in making many steel products, which it is necessary or advantageous to secure from foreign sources. With the sources of supply for these materials under the control of foreign powers, it is set forth, the steel producers in the United States might at any time be put to a serious disadvantage, as compared with foreign producers of steel, through the application of discriminating export taxes or other forms of restrictions on shipments. Second, it is stated, exports of steel products from the United States might be excluded from competition in important markets, through the operation of reciprocal trade agreements, preferential import duties, or discriminating customs classifications and regulations operating in favor of foreign producers of steel.

Dependence on Foreign Sources

The degree of dependence on foreign sources of essential raw materials which are used in making steel products is illustrated in the following table of statistics covering imports and domestic production in the calendar year 1919, which the corporation said was the latest period for which complete data are available. All the figures, except those for palm oil, given in gallons, are in tons:

	Imports	Domestic Production
Manganese ore and oxide of..	333,344	58,243
Nickel, ore and matte.....	23,057	511
Tin, ore	17,139	60
Tin, bars, blocks, pig.....	44,849	...
Tungsten bearing ores	8,400	330
Vanadium	3,013	276
Palm oil	41,817,000	...

"A dozen countries, including British colonies under

that head, control the principal sources of these materials," it is stated. "These same countries also represent the market for 50 per cent of the steel exported from the United States, and might at any time close those markets to our steel products by the operation of preferential or discriminating duties."

The brief shows that the tendency is toward preferential duties, on a scale that is greatly to the disadvantage of steel exports from the United States, citing the new Australian schedule of imports duties on steel products.

Retaliatory Measure

It is pointed out that the preference in favor of British steel has been increased to such an extent as practically to eliminate successful competition by steel imports from any other source.

"Recently," the brief says, "the Argentine proposed to levy a duty of 40 per cent on all imports from the United States as a retaliatory measure if the proposed increase of duties by this country on certain farm products is adopted. (Note—This measure, the emergency tariff bill has passed the House, in all probability will pass the Senate and has been given approval by the President; hence it promises strongly to become a law). Such a duty would speedily have put an end to any hope of selling American steel in Argentina in competition with the European steel producers.

"These facts make it plain that the only safeguard of the foreign-trade interests of steel producers and merchants lies in a bargaining provision in the tariff act which by its very presence and flexibility to cover all circumstances will largely prevent the adoption of discriminating or unduly favorable preferential tariff rates.

"It is therefore respectfully urged upon this committee to report favorably on the proposed bargaining provision for the tariff act of the United States as the most effective safeguard for our steel trade in all markets of the world.

"At this same time, for the protection of the home market, the tariff act should be so framed as to include an anti-dumping clause which would penalize heavily any attempt to unload foreign merchandise in the United States at a price lower than the current market price in the country of origin at the date when the goods were shipped. Such anti-dumping clause should cover the possible contingencies arising from prices quoted in greatly depreciated foreign currencies in any cases where the domestic market prices in the foreign country are out of line with the foreign exchange rate for the currency in which the prices are quoted."

Open Price Associations Criticised by Trade Commission

WASHINGTON, April 19.—Broad plans for restoring the economic and industrial conditions of the country to as nearly a normal basis as is possible appear to be in the mind of the Administration, judging from activities that it has had under way almost from the time of its advent and some of which took on a more or less specific character during the past week. One of the chief ideas apparently is to develop deflated prices, and particularly in the retail trade, though intended to reach back to cost of production. Lower freight rates have been urged repeatedly by high Government officials as one of the necessities toward return to normal costs, and the action of the Railroad Labor Board looking to the doing away with national wage agreements has been looked upon as one possible source toward lessened transportation cost, which in turn, it is hoped, will be followed by lower costs on the part of the manufacturer, jobber and retailer, so that greater advantage would accrue to the consumer. Extended credits, cheaper money, and better co-operation between the Government and business also are said to be considerations under way with respect to the process of readjustment.

Proposal of such a plan has been given significance by the report made to the President, at his request, by the Federal Trade Commission, published yesterday, and to which the President made reference in his address before the joint session of Congress last Tuesday. In connection with his inquiry for a report, the President told the Congress that "deflation has been in progress but failed to reach the mark where it can be proclaimed to the great mass of consumers. Reduced cost of basic production has been recorded, but high cost of living has not yielded in like proportion. For example, the prices of grains and livestock have been deflated, but the cost of bread and meats is not adequately reflected therein." He asked the commission, he said, for a report of its observations, and said that it attributes, in the main, the failure to adjust consumers' cost to basic production costs to the exchange of information by "open price associations," "which operate, evidently, within the law, to the very great advantage of their members and equal disadvantage to the consuming public. Without the spirit of hostility or haste in accusation of profiteering, some suitable inquiry by Congress might speed the price readjustment to normal relationship, with helpfulness to both producer and consumer. A measuring of fair prices will satisfy the country and give a business revival to end all depression and unemployment."

The Federal Trade Commission recommended several remedies, which, aside from those that might be afforded by improved transportation and credit facilities, as it pointed out, included, among others, the following:

The passage of a bill which will meet judicial objections to the authority of the commission to continue its efforts to obtain and publish information respecting the ownership, production, distribution, costs, sales, and profits in the basic industries more directly affecting the necessities of life—shelter, clothing, food and fuel—for the information of Congress.

Vigorous prosecution under the anti-trust laws, including a re-examination of the reviewable decrees already entered in such cases with a view to strengthen them to meet present conditions, including also a closer scrutiny of the so-called open price associations, to ascertain whether under the guise of beneficial associations they are in fact violating the law. Examination of associations of distributors to determine whether violations of law exist, and whether any of the activities of such associations are not of public service.

The passage of measures aimed at the elimination of unnecessary reconsignment and brokerage operations, including also "gambling in futures." Pyramiding of reconsignments and of jobbing sales, while not possible in the present market conditions, was one of the causes of the buyers' strike, from which we now suffer, and may reappear whenever markets again become speculative.

Calling a conference of officials representative of the trading nations of the world to consider the question of clearing the channels of international trade so as to eliminate undesirable combinations and to promote fair competition.

The recommendations also call for protection of the farmers through co-operative associations of producers and consumers and against so-called closely organized elements.

Fundamental Difficulty

The commission states that a fundamental difficulty at the present time lies in the fact that there is no complete information available to anyone with reference to the proper adjustment of manufacturers', wholesalers,' and retailers' prices in any industry. It mentions its frustrated efforts, started in January, 1920, with the approval of Congress, to determine the production costs, etc., in basic industries, including iron and steel and coal. An injunction was obtained from the Supreme Court of the District of Columbia by the National Coal Association halting the commission's inquiry as to coal production costs. The commission says it also proceeded to enforce its orders for the production of cost reports in the steel industry, "whereupon it was met in the same court by a bill for an injunc-

tion brought by a group of steel producers, and at the same time cited for contempt of court upon the allegation of a violation of the preliminary injunction issued in the first-mentioned suit." As the commission states, it is defending these actions and the steel case has been set for a hearing in the District of Columbia Supreme Court this month.

More Activity in the Connellsville District

UNIONTOWN, PA., April 18.—Renewed activity of a noticeable sort is apparent among independent coal and coke operators in the Connellsville bituminous region. This applies to resumption of operations, additional inquiries for contract business and price shading. One large independent coke producer is understood to be quoting $3.50 for furnace coke and $4.50 for foundry coke, a radical readjustment of prices, quotations for foundry coke generally being on the upper side of $4. Some sales of coal are being made at slightly under $2, although most business being done ranges from $2 to $2.50.

The Thompson No. 1 plant of The Redstone Coal & Coke Co. fired 320 ovens this week. One hundred ovens have been fired at Orient plant of The American Coke Corporation. A number of other smaller operators in the county are resuming operations. R. H. Maize, State mine inspector, with headquarters here, believes the turn has come. He points out that a number of the smaller and independent operators are again working.

Inauguration of the new wage scales announced by independents, and effective as of April 1, the new scale being a return to the scale of November 10, 1917, has been made without any difficulty and no opposition has been apparent. Announcement last week of reductions in prices of the Steel Corporation was expected here to be the forerunner of a similar announcement as to wages. However, since such a reduction was not made as of April 15, there is some doubt now among observers whether the Steel Corporation will act before the end of May.

Air Reduction Sales Co. Plans

The Air Reduction Sales Co., 120 Broadway, New York, has secured control of the National Carbide Corporation of Virginia, with a new plant at Ivanhoe, Va., and beginning May 1 will direct the policy and control the operation and sales of the Carbide Corporation.

With the acquisition of this carbide plant, the Airco organization (Air Reduction Sales Co.) will manufacture and sell within its own organization everything necessary in the use of the oxyacetylene flame. Airco products now include oxygen, acetylene, welding and cutting apparatus and supplies, acetylene generators, carbide, nitrogen and argon.

The carbide produced at the new plant will be marketed in the future as Airco Carbide through the chain of distributing stations stretching over the country.

Disposing of Waste

Negotiations were conducted during the past week between the Standard Slag Co., Youngstown, Ohio, and representatives of railroads serving the Mahoning and Shenango valleys for the disposition of slag and waste from furnaces and steel plants. These negotiations are expected to result in absorption by the company of all plant wastes in the Mahoning Valley, except where the blast furnace interests operate their own slag crushing apparatus. It is the purpose of the Standard Slag Co. to commercialize all waste material so accepted in the regions in which it now has plants and to erect new plants wherever there is need for them.

The Brier Hill Steel Co., Youngstown, Ohio, has issued the first edition of a shop paper for its employees which will appear monthly, and will be published under direction of Warren F. Perry, manager of industrial relations.

Wisconsin Legislature Acts on Basing Point Resolution

The Wisconsin legislature has adopted a joint resolution similar to those passed in Minnesota and Iowa, memorializing the Federal Trade Commission to issue a complaint against the practice of quoting rolled steel products, f.o.b. Pittsburgh, and "upon final hearing thereof to grant to the public so discriminated against the utmost possible relief." No other Western legislatures are now in session and it is probable that the next action will be taken in the South in the Georgia legislature, which convenes in June. The agricultural press is taking an active interest in the question, condemning the Pittsburgh basing point on the grounds that it is an imposition on the farmers. *The Wisconsin Farmer* of April 14, says, in part: "By this economic fraud every farmer is being mulcted by the steel trust out of many dollars annually, on the price of his machinery, implements, household utensils and everything which he uses that contains rolled steel."

Decisions on Zinc Ore Rates

WASHINGTON, April 19.—An opinion was handed down last week by the Interstate Commerce Commission holding as neither unreasonable nor unusually prejudicial, rates on zinc ore from Joplin, Missouri and Miami, Oklahoma, or districts to La Salle and Peru, Illinois; or on spelter and sheet zinc in carload lots from La Salle and Peru to Eastern Trunk Line and New England territory. The same ruling was made with regard to the aggregate rates on ore inbound to La Salle and Peru and on either spelter or sheet zinc outbound to the eastern territories mentioned. Consequently, this phase of the complaints of the Mathieson & Hegeler Zinc Co. and others was dismissed.

Rates on zinc ore from the Platteville, Wis., district to La Salle and Peru were held to be unreasonable to the extent that they exceeded 7.5c. per 100 lb. plus the increases authorized in the general rate advances of last August. The commission required the establishment of a rate of 7.5c. on or before June 15.

Installations of Baily Electric Melting and Heat-Treating Furnaces

The Electric Furnace Co., Alliance, Ohio, has just installed three Baily electric brass melting furnaces of different size and capacity but built upon the same resistance principle as follows: The Bagley & Sewall Co., Watertown, N. Y., a 50 k.w. electric furnace with 500 lb. hearth capacity; the Alliance Brass & Bronze Co., a 75 k.w. furnace with 800 lb. capacity and the Empire Brass Works London, Ontario, a 105 k.w. furnace of 1500 lb. hearth capacity. All of these furnaces are to melt yellow and red brass alloys. The Empire Brass Works is the fourth Canadian plant to adopt the Baily electric furnace for melting its non-ferrous metals.

The Lorain Steel Co., Johnstown, Pa., is installing a 200-k.w. Baily electric furnace for heat treating railroad bolts and similar parts. The furnace is of the continuous pusher type with motor-operated control mechanism. It will have a capacity sufficient to heat treat 14 tons of material per day. Installations of electric heat-treating furnaces are rapidly increasing in plants which supply the railroads with equipment such as railroad axles, draw bar knuckles, bolts and similar castings and parts.

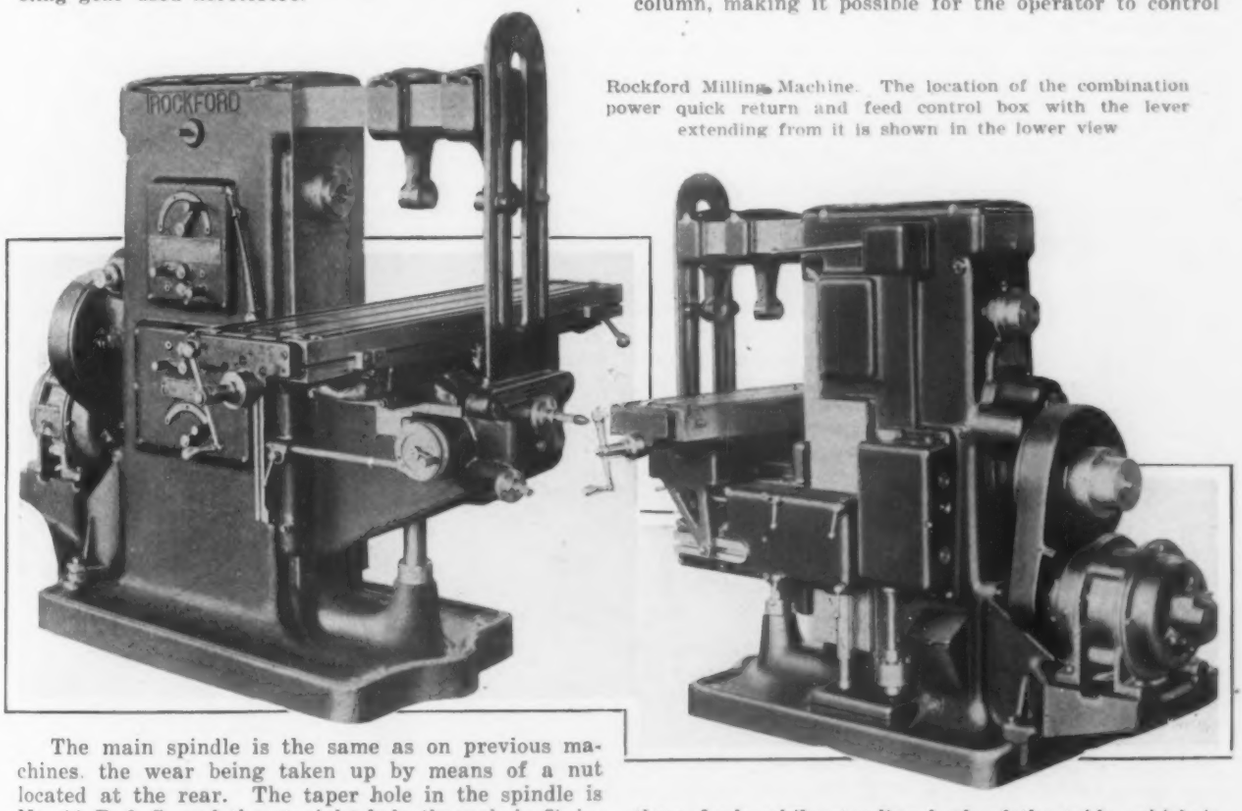
The West Virginia Malleable Iron Co., Point Pleasant, W. Va., suspended operations April 14 when the molders rejected the proposal of the management to cut wages 10 per cent. Officials of the company state that the works will be closed indefinitely and will be operated as an open shop when reopened.

The maintenance of way employees of the Western district of the Southern Railway system, with division shops at Princeton, Ind., are being put back to work at a flat schedule of 40c. an hour. They include shop watchmen, inside hostler helpers and section men.

ROCKFORD MILLING MACHINE

Rectangular Overarm Moved by Rack and Pinion—Single Control for Feed and Quick Return

The No. 3 "high-power" all-geared, single-pulley milling machine recently brought out by the Rockford Milling Machine Co., Rockford, Ill., although retaining the special points of previous Rockford machines, incorporates new and improved features. The most conspicuous include the method of transmitting the feed drive to the saddle and table mechanism, eliminating the use of a telescopic feed shaft and universal joints; the method of moving the rectangular overarm by rack and pinion and the incorporation of a single control for feed and quick return. The feed and speed gear mechanism has been entirely re-designed, sliding gears for changing the feeds being used instead of the tumbling gear used heretofore.



Rockford Milling Machine. The location of the combination power quick return and feed control box with the lever extending from it is shown in the lower view

The main spindle is the same as on previous machines, the wear being taken up by means of a nut located at the rear. The taper hole in the spindle is No. 11 B & S, and the straight hole through is ⅞ in. in diameter. The arbor is driven by two hardened steel keys, furnishing a tang drive, and the usual draw-in is also provided. The drive is constant speed, the drive pulley 16 x 4 in., and is recommended to run at 320 r.p.m., with a 10-hp. motor. Both the drive pulley and the motor drive are equipped with roller bearings. Reverse for the main spindle drive is provided

There are 16 changes of speeds in geometrical progression from 15 to 422 r.p.m. Three levers manipulate all speed variations, and the position of the levers for the different speeds is plainly indicated by an index plate. The speed changes take place through gears sliding into mesh.

The overhanging arm of entirely new design is a rectangular cast iron piece 4½ x 9½ in. It is clamped to the column by means of two eccentrics, which are locked securely, and also held down by the entire top part of the column. The movement of the overhanging arm is by rack and pinion and when changing cutters it is only necessary to loosen the eccentrics and move the overhanging arm out beyond the arbor. Work may also be removed without first moving the arbor supports. The outerarm brace being fastened to the arbor support can also be removed by simply loosening the bolt which fastens the arm brace to the knee. The distance from the center of the spindle to the under side of the overhanging arm is 7¼ in., and the maximum distance from the face of the column to the brace is 25½ in. As the overhanging arm is alined accurately with the main spindle and its position cannot change, there are various uses to which it can be applied, one of which is using a test indicator along the overhanging arm in lining work.

Twelve feeds are furnished, the range being from ½ to 16 in. per min. Three levers are used to obtain the various feed changes and the feed plate indicates the exact location of each lever for all speed changes. The feed control box is located on the left-hand side of the knee, the position of the lever on which determines whether vertical or transverse feed is engaged. When the lever is set over to extreme right and another lever on the right-hand side of the knee is operated downward, the cross feed is engaged. Moving the lever on the feed control box to the opposite position, engages the vertical feed and is controlled by the same lever on the right side of the knee as for the cross feed. The vertical and cross feed can also be controlled through the lever on the left hand side of the knee near the column, making it possible for the operator to control these feeds while standing back of the table, which is convenient in boring operations.

The working surface of the table will be regularly 15 x 55 in. The range of feeds are 34 x 12 x 20 in., longitudinal, transverse and vertical respectively.

A combination power quick return and feed control box is located on the upper right hand side of the machine, which is shown with the long lever extending from it. To move the table toward the left the lever is shifted from central position toward the column and downward. To reverse the movement of the table, the lever is shifted upward into the opposite station. The control of the cross and the vertical feed is taken care of in the same manner. Thus, whatever feed is engaged is under the constant control of the feed shifter lever. Power quick return is provided for all feeds and to operate, the shifting lever is moved away from the column downward, or forward, depending on the movement desired.

The knee has long bearing surface on the column which is augmented by a heavy support or brace bolted to the knee and having itself a long bearing surface on the column. By locking this brace against the column by the four bolts provided, unusual rigidity between the knee and the column is attained. The cross screw is located directly in the center of the knee, which is said to provide an even bearing on all sides, especially under a heavy load when the cross feed is engaged.

The saddle has a support bolted to it which has a

bearing surface on the knee brace, as shown. This support can be locked, thus locking the saddle to the knee and holding them rigidly in position when taking heavy cuts. This is a patented feature.

A feed safety device is provided in what is called a shock absorber, located at the lower right hand side of the machine. This serves as a safety stop to all feeds and acts when the load is too heavy, the friction slipping, stopping the feeds and preventing any breakage.

The vertical milling attachment can be used without removing the overarm. The plug on the face of the column directly under the overarm is removed, exposing the bull drive gear into which the geared drive shaft for the vertical attachment is inserted. By clamping the vertical attachment to the extreme end of the overhanging arm as well as the flanges of the column, it is in position for operation.

The floor space required is 126 in. parallel with the spindle, allowing for maximum extension of the overarm in both directions, and 116 in. at right angles with the spindle. The weight is 7270 lb. net.

MORE BUYING EXPECTED

Probable Effects of Steel Corporation Policy in the Valleys—Independents Show Gain in Operations

YOUNGSTOWN, OHIO, April 19.—Stabilization of the steel market will result from the action of the United States Steel Corporation in reducing its prices, is the belief of leading independent producers in the Mahoning Valley. Already tonnage which had been held up pending price readjustment by the leading interest is being released. President James A. Campbell, Youngstown Sheet & Tube Co., states that the price reductions are likely to stimulate buying, but does not expect rush business. He states that from all indications considerable tonnage had been held up awaiting this adjustment.

Price developments in the past week are expected to improve the general tone of the market, already reflected in sheet steel, all grades being much firmer. District makers announce horizontal advances, all the leading independents participating in the action.

All the leading independent producers of pipe have followed the lead of the National Tube Co., subsidiary of the Steel Corporation, in reducing quotations on steel pipe. The reduction averages about $8 a ton, ranging from virtually nothing on the extreme small sizes to $10 a ton on sizes from 1 in. to 3 in. inclusive, and then diminishing as sizes go up. Heaviest current demand is for 1-in. to 3-in. material.

Independents Gaining

In the Valley indications point to the fact that the independents are gaining on the Steel Corporation in the matter of business. The rolling schedules of the independent interests generally show improvement over those prevailing a month ago, whereas the Carnegie Steel Co. is inclined to slump and is reducing its working forces in this territory. The Trumbull Steel Co., for instance, reports current operations at 60 per cent. of normal, while the ingot production of several of the other larger independents is around 40 per cent.

All district makers announce that no new business will be accepted except under the currently quoted prices. Some tonnage which drifted in last week on old quotations was turned down unless the buyer agreed to accept the revised prices. This situation prevailed particularly in the sheet market, buyers offering tonnage at the low prices. Some interests believe that steel orders in any quantity will not be forthcoming for a month, or until buying interests have had time to digest the new rates and determine their requirements. Producers likewise expect that the consumers will take time to test out the market to ascertain just how firm the prices will be. In the meantime, there will be freer buying against current requirements, it is expected.

Reducing Unfilled Orders

One independent maker voices the opinion that in a week or ten days there may be less business on the books of producers than at present, owing to the working off of orders placed prior to the independent advance.

Demand for tin plate, wire products, strip steel and plates is showing sustained improvement. Independent prices on tin plate have been adjusted to conform to those of the leading maker.

Two orders for galvanized sheets, one involving 800 tons and the other 1000 tons, both booked at 4.50c., are being worked off by makers, the tonnage having been booked prior to the increase. Some export business is being done by a local maker of special plates, a lot of 2000 tons going forward to seaboard last week.

Seasonal demand for wire products and wire nails is enabling district makers to maintain production in such departments, the price remaining firm at 3.25c.

Little activity is noted in pig iron, production being curtailed as much as possible. The basic market still holds to $23, because of the large accumulations by steel works interests, in view of the limited demand.

The leading district independent tin plate producer is working off an order for upward of 50,000 base boxes of tin plate, booked at $6.25, the price to which the Steel Corporation has receded. This order accounts for expanded operations of this interest in its tin plate departments. Improvement in tin plate buying, however, is not proportionate to anticipated seasonal expansion.

Continued demand from automobile interests is enabling the operation of strip steel departments on a normal basis. The hot strip quotation is firm at 2.90c., which is up 0.10c. from recent quotations. Plate tonnage coming into the Valley is for comparatively small quantities.

The raw materials market is a measure of the iron and steel situation. By-product coal is freely available at $2 and steam coal at $1.75. Prime Western spelter has sagged to 4.60c.

Prices of semi-finished materials are generally about $1 per ton higher than recent quotations, open-hearth sheet bars being quoted generally at $39. Standard billets and slabs are held at $37.

Slight Increase in Activity

Operations in the Valley average from 6 to 8 per cent better than last week. Twenty-four of the 51 independent open-hearth furnaces are charged, bringing the total number of such active units to 36 out of 66. Three Bessemer plants are active, the best ratio that has been maintained in several months. Sheet mill schedule is at 40 per cent, which is also one of the best in many weeks. Improvement in the production of the Republic Iron & Steel Co. and the Brier Hill Steel Co. is somewhat offset by decline with the Youngstown Sheet & Tube Co. The 132-in. plate mill of the Brier Hill company, which has been inactive most of this year, is under power this week. There is no change in blast furnace schedules, six of the Valley's 25 stacks being in commission.

Bethlehem Steel Co. Low Bidder

WASHINGTON, April 16.—The Bethlehem Steel Co. submitted a bid of $39.96 per gross ton; the Delaware River Steel Co. the equivalent of $42.93, and the Midvale Steel & Ordnance Co. the equivalent of $44.80, all f.o.b. Washington Navy Yard, for 446 gross tons of acid open hearth pig iron, in connection with a schedule which was opened by the Bureau of Supplies and Accounts of the Navy Department last Friday. The specifications of the iron required by the Navy are: Silicon, 2 per cent; phosphorus 0.035 per cent; sulphur 0.03 per cent; manganese 0.20 per cent and copper 0.50 per cent maximum.

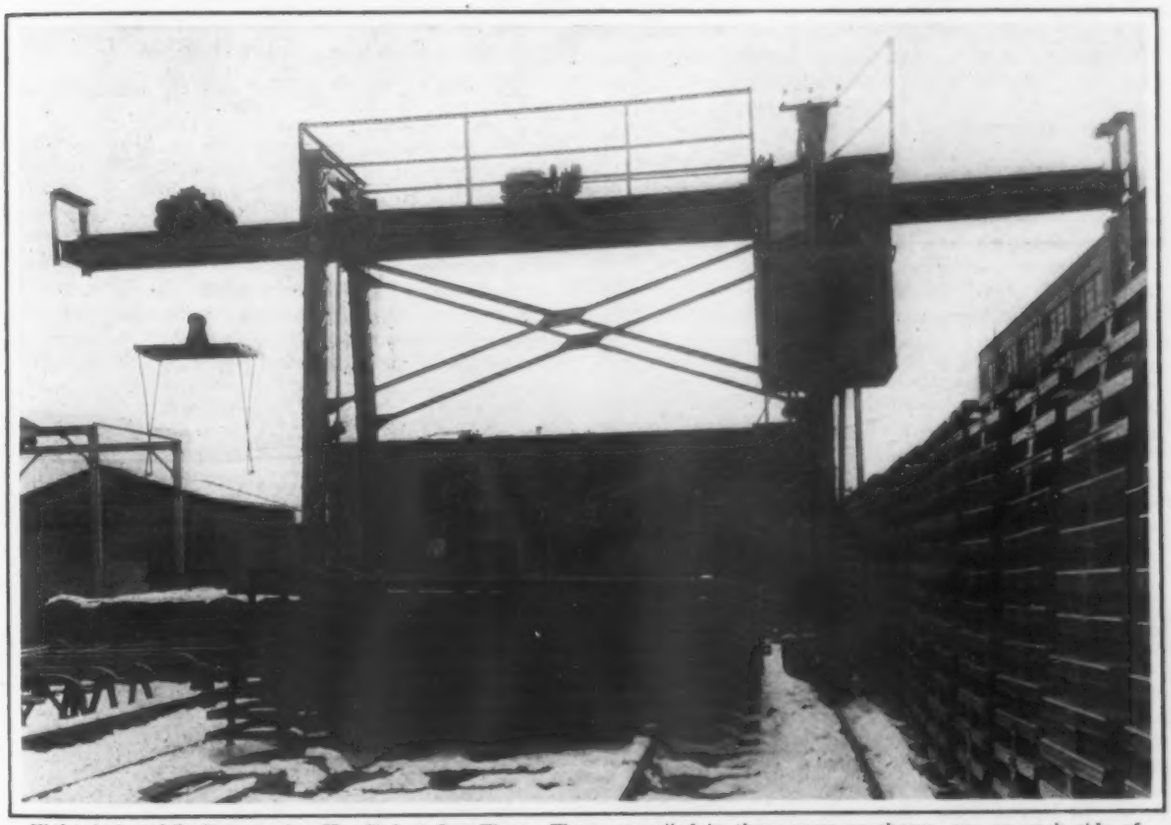
The bid of the Midvale company exceeded the specification for this low phosphorus iron as to manganese and copper content, its iron being analyzed at 1 to 1.50 per cent manganese and at 0.15 per cent copper.

SPECIAL STORAGE GANTRY

Space in Yard Saved and Number of Workmen Reduced from Six to Three

The Peerless Motor Car Co., Cleveland, has greatly reduced the cost of handling automobile frames and at the same time reduced more than one-half the amount of ground space required for storing by the recent installation in its frame storage yard of a special type gantry crane designed for this purpose by the Barber-Foster Engineering Co., Cleveland.

The crane is three-motor, gantry type, cab-operated, of 2-ton capacity. Its span from center to center of rails is 19 ft. and its over-all dimension is 42 ft. 7 in. There is a cantilever at each end 11 ft. 10½ in. long, the effective cantilever being 9 ft. 2 in. The bridge is driven by a 6¾ hp. motor through a horizontal line shaft to a vertical line shaft, which in turn is bevel-geared into the driving wheels. There is a 3-hp. motor for trolley travel across the bridge. The cab is located on the driving side on the right-hand leg and is of sheet metal construction, totally inclosed, and has windows on each of the four sides. It is equipped with a switchboard for controlling the three movements. All the electrical equipment is operated by alternating current. All machinery is inclosed. Hyatt roller bearings are used throughout, these running on hardened and ground shafting and hardened and ground wheel pins. All gearing is hardened and ground.



Eight Automobile Frames Are Handled at One Time. These are piled in three rows as shown, one on each side of the runway and the third row in the center between the crane rails. The frames are piled sixteen high

The special handling device consists of a lifting beam built of structural shapes and four hooks made of 1⅛ in. round bars, suspended from the corners of the beam. In carrying frames the handling device is lowered over the pile, the hooks extending inside the frames and hooking from the inside upon the bottom frame. The stiff bar hooks hold the frame firmly in place so that there is no necessity of binding them together to prevent them from slipping. The handling device has a capacity of 8 frames.

These are piled in three rows, one on each side of the crane runway and the third row in the center between the crane rails. When the frames were moved by hand they were stacked in piles, six high, as higher stacks were impractical because of the difficulty in handling. Now they are stacked in piles 16 frames high, which results in the great saving in storage space. The ground space occupied for frame storage and the crane is approximately 50 x 115 ft. with a capacity for 1200 frames.

A motor truck loaded with frames is run under one end of the crane at the end of the storage yard and the crane handles the frames direct from the truck to the storage space. At this end a tank will be placed in the ground in which the frames will be dip-painted before being stacked up in the yard. At the other end the frames are loaded on a transfer buggy that runs under the cantilever of the crane and they are hauled on the buggy to the assembling floor. Before the crane was installed six men were required, but this work is now being done by three men.

Brass Cartridge Cases Sold

WASHINGTON, April 19.—All remaining surplus brass cartridge cases in the possession of the War Department, comprising 14,175,513 pounds, have been sold through the Ordnance Salvage Board. The final lots were allocated to nine companies at the same price and on the same terms as the sales recently announced to the Chase Companies, Inc., the Scovill Mfg. Co., and the Bridgeport Brass Co., these companies having purchased 10,000,000 pounds. The contracts are based on a given percentage of the market price to be adjusted monthly.

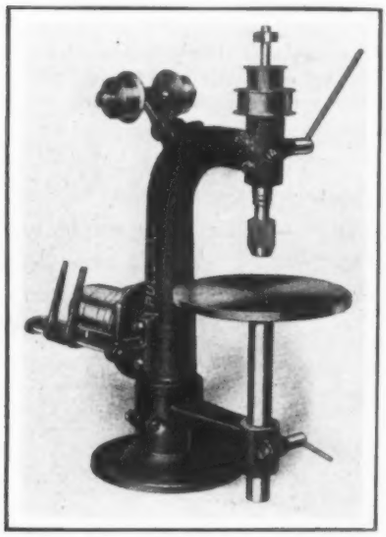
The Government is to receive 41.5 per cent of the average market price for electrolytic copper, New York base, plus 19.5 per cent of the average market price for prime Western zinc, St. Louis base, for the month in which deliveries are made.

The nine companies and the amounts allocated to them in the sales of last week are as follows:

Western Cartridge Co., East Alton, Ill., 2,074,550 lb.; American Copper Products Corporation, Bayway, N. J., 2,000,000 lb.; Baltimore Tube Co., Baltimore, 500,000 lb.; Wheeler Condenser & Engineering Co., Carteret, N. J., 1,746,812 lb.; Seymour Mfg. Co., Seymour, Conn., 2,009,306 lb.; Keeler Brass Co., Grand Rapids, Mich., 761,800 lb.; British American Metals Co., Inc., Plainfield, N. J., 2,000,000 lb.; Ansonia Foundry Co., Ansonia, Conn., 1,500,000 lb.; Standard Underground Cable Co., Pittsburgh, 1,553,045 lb.

High Speed Bench Drill

The high speed bench drill being placed on the market by the Pullman Ventilator & Mfg. Co., York, Pa., is built on the lines of a 12-in. drill and takes drills from No. 0 to ⅝ in. in diameter. The distance from the center of spindle to the frame is 6 in., and the maximum between the spindle and the table is 9½ in. The table can be swung around the frame of the machine at an angle of 180 deg., and can be locked in any desired position. Pulleys are fitted with Hyatt roller bearings and the spindle is provided with ball bearing thrust.



Bench Drill for High-Speed Operation on Small Work. When arranged for motor drive the belt is taken up over the idlers to the spindle pulley

The recommended spindle speeds are 800 and 1500 r.p.m., although these speeds may be increased if desired. The machine is furnished with a chuck as part of the spindle or without a chuck, but with the spindle bored for a No. 1 Morse taper. A floor column can be furnished if desired. The height is given as 28 in., and the weight as 85 lb.

Harvester Company Reduces Prices

The International Harvester Co. reduced prices 10 per cent on all products in which steel is the principal raw material, following the announcement of lower prices by the United States Steel Corporation subsidiaries. The new prices apply chiefly to harvesting machine lines, covering grain and rice binders, shockers, reapers, and push machines, mowers, hay rakes, side rakes, delivery rakes, tedders, combination side rakes, loaders, corn binders, pickers, huskers and silo fillers. On March 7 the Harvester company announced price reductions of from 15 to 17 per cent on machines principally composed of wood and iron. The changes made on Apil 14 complete the reduction on the entire line of machines manufactured by the company. The announcement reads in part as follows:

"The reduction in the price of steel comes at a time when our year's product has been provided for and will have no bearing on the cost of machines we sell this year. It does establish a lower replacement cost, however, and serves as the basis of a price to which our customers are entitled and which we are willing to accept."

Safety Engineering

At the monthly meeting April 22, of the American Society of Safety Engineers in the Engineering Societies Building, New York, two papers are to be presented and discussed. Dana Pierce, vice-president Underwriters' Laboratories, will talk on safety in relation to electrical appliances. George B. Muldaur will talk upon the organization, scope and services of the Underwriters' Laboratories and will illustrate his remarks by motion pictures. These papers will cover the service of the laboratories with relation to prevention both of accident and fire.

New Budget Bill Approved

WASHINGTON, April 19.—President Harding is understood to have approved a new budget bill which has been introduced by Chairman Good of the House Committee on appropriations. The bill provides that both the director of the bureau and his assistant are to be appointed by the President instead of making the Secretary of the Treasury the director, which was the provision of the old bill vetoed by President Wilson. Congress, under the Good bill, would have authority to remove the Comptroller of the Currency. In other respects the bill is practically the same as the original measure which passed the previous session and which was vetoed.

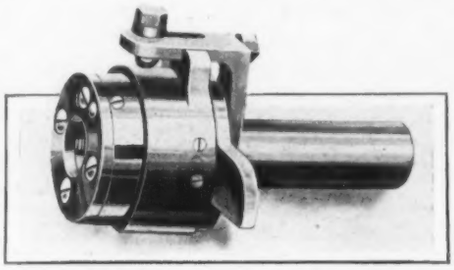
Legislation for the relief of the Patent Office has been reintroduced and it is believed will be passed without difficulty and signed by the President. Doubt has been expressed as to whether Senator Johnson will accept the chairmanship of the new Committee on Patents which, it is said, will be offered to him.

Confirmation of President Harding's appointment of Congressman Robertson to be Commissioner of Patents has been accepted as a matter of course.

Improved Die Head for B & S Automatics

A new die head for use on Brown & Sharpe automatic machines has been recently brought out by the Eastern Machine Screw Corporation, New Haven, Conn., maker of the H. & G. line of automatic die heads. It is known as style D and the change from its previous design is in the method of drive and in the redesign of the trip lever.

Previously the method by which the head was kept from turning in the floating shank was by a pin through the shank proper engaging and traveling in diametrically opposite slots in the floating shank. As redesigned, the same result is accomplished by an extension on the shell of the head which engages both sides of the arm of the floating shank that overhangs the body. This construction brings the drive further from the axis of the die head and decreases the friction to a negligible quantity. This means, the makers say, that even the coarsest pitch which the machine will pull is threaded without friction or cramp in the head.



Improved Die Head for B. & S. Automatics. The head is kept from turning in the floating shank by an extension on the shell of the head which engages both sides of the arm on the floating shank

The design of the trip lever has been changed to make it sensitive for even the finest threads up to ninety threads per inch. These changes make it a simple matter to install these heads on any Brown & Sharpe automatic, with practically no changes necessary.

The regular monthly meeting of the Pittsburgh Foundrymen's Association at Hotel Chatham, Pittsburgh, Monday evening, April 18, was featured by the presentation of a film entitled "The Jewels of Industry," made for the Carborundum Co., Niagara Falls, N. Y. The film is the story of the making of modern grinding material in electric furnaces, and the making of grinding wheels and also depicts several industrial plants showing the usual and unusual uses for modern grinding materials. A prologue gave several views in and about Niagara Falls, detailing the creation of electric power from the falls.

U. S. Steel Corporation Principles

Chairman Gary Speaks at the Annual Meeting

Labor Problem Considered at Length—Despite Long Continued Effort, Way to Abolish Twelve-hour Day Not Found—Collective Bargaining as Adopted by Some Other Companies Not Approved—End of Unionism Declared to Be Disaster and Destruction

At the annual meeting of the United States Steel Corporation, Hoboken, N. J., Monday, April 18, Chairman Elbert H. Gary spoke at length concerning principles and policies of the corporation. He said that the United States Steel Corporation has been characterized as "A Corporation with a Soul," and added: "Whether or not the statement is literally true might depend upon your definition, or mine, of the word soul. We might not agree. I volunteer one that you may be willing to accept, at least for the purposes of these remarks: A soul is a controlling influence, possessed by individuals, corporations or States, which recognizes as of equal importance the rights, interests and welfare of themselves with all others. It involves the practice of the rule promulgated by Confucius 500 years before Christ.

"Under this definition the United States Steel Corporation has striven to secure from all who are interested in its conduct the belief that it is possessed of a soul; to say it has often failed is to assert only that its managers are human. But when and in what respect it has failed in performance can be accurately and fairly determined only by those who are familiar with all the facts and motives applicable."

Judge Gary next spoke at length of the relation of the management of a corporation to its security holders, the general public and the working forces. "It will cheerfully be admitted," he said, "that the interests of the general public are first to be considered. When they clash with private interests, the latter must be subordinated." He insisted that the employees of the Steel Corporation, on the average, have received as high, if not the highest, compensation and as generous, if not the most generous, treatment accorded to any basic industry, at any period in this or any other country.

Labor Unions

On the subject of labor unions, Judge Gary spoke with much vigor and considerable detail, saying in part:

"As stated and repeated publicly, we do not combat, though we do not contract or deal with, labor unions as such. Personally, I believe they may have been justified in the long past, for I think the workmen were not always treated justly; that because of their lack of experience or otherwise they were unable to protect themselves; and therefore needed the assistance of outsiders in order to secure their rights.

"But whatever may have been the conditions of employment in the long past, and whatever may have been the results of unionism, concerning which there is at least much uncertainty, there is at present, in the opinion of the large majority of both employers and employees, no necessity for labor unions; and that no benefit or advantage through them will accrue to anyone except the union labor leaders.

"The workman, if he belongs to a labor union, becomes the industrial slave of the union. He has no power of initiative or opportunity to apply his natural mental and physical capacity. If our own shops should become thoroughly unionized and all others likewise should recognize the unions, and the steel industry should become entirely organized, as the leaders have openly attempted, then the management would be in the hands of the unions. Some of you have, no doubt, personally seen or read of the results of complete organization by the unions in certain lines.

"The natural and certain effects of labor unionism are expressed by three words: Inefficiency, high costs. And be it remembered that in the end the general public, which is more interested in the selling prices of all products, must pay for extortionate, unnecessary and unreasonable costs of production. It is primarily, fundamentally and finally interested in the existence and conduct of labor unions.

"I am not discussing what is the fair proportion or division of the proceeds of business, between capital, labor and consumer. I am referring to the subject of waste, of unreasonable, unconscionable, unjustified conditions and terms which restrict and hamper natural, orderly, legitimate and sensible management and progress.

"The end sought by labor union leaders——that at least to which their efforts tend—means disaster and destruction."

In conclusion, Judge Gary said:

Possible Solution

"Possibly there is a solution of or antidote to the labor union problem.

"I do not believe in socialism; in Governmental management or operation; but I do advocate publicity, regulation and reasonable control through Government agencies. Members of commissions or departments should be non-partisan, non-sectarian, based on qualification and moral character. Their decisions should be subject to review by the highest courts.

"Laws—clear, well defined, practicable and easy of comprehension—covering these matters, might be passed, and if so they should apply to all economic organizations, groups or bodies exceeding certain specified numbers or amounts. Both organized capital and organized labor should be placed under these laws. Each should be entitled to the same protection and be subject to the same restrictions and provisions. Will labor unions consent to this? They have heretofore objected. Here would be a test. Labor union leaders have before now asked and received discriminatory exemptions. This is wrong and it would be just as bad if the situation were reversed. Employers generally desire only the same treatment that is accorded to labor unions. The large majority of workmen also would be satisfied with this standard.

Days and Hours of Work

"The corporation inherited the 12-hour day and the seven-day week system for necessary continuous operations. They had been and still are in vogue in many lines of industry in various countries. Perhaps they will never be entirely abolished. Possibly the workmen themselves, the employers or the general public will never, as a whole, consent to the entire elimination of either proposition. From an economic viewpoint, there is much to be said in favor of the existence of both, particularly the twelve-hour day. Many departments of industry, from a practicable consideration,

require continuous operation. However, you are entitled to know the attitude of the corporate managers concerning these matters.

"At the annual stockholders meeting of the corporation held April 17, 1911, you will remember it was voted (your chairman, holding a proxy from a large majority of the stockholders, voting in the affirmative);

Resolved, That the chairman shall forthwith appoint a committee of not more than five persons from the officers, or stockholders, of this corporation, to investigate and report to the Finance Committee, as soon as may be, but not later than Oct. 1, 1911, as to the truth of the statements contained in a certain article appearing in the March number of the *American Magazine*, under the title "Old Age at Forty," and that such report, together with such comment as said Finance Committee may desire to add thereto, shall thereupon be printed and mailed to the stockholders of this corporation.

The Committee Report

"Pursuant to this resolution a committee was appointed consisting of Stuyvesant Fish, Thomas DeWitt Cuyler, Darius Miller, Charles A. Painter and Charles L. Taylor. After diligent examination and inquiry the committee reported that notwithstanding the Finance Committee had previously adopted a resolution in favor of the abandonment of the seven-day week and although the chairman had subsequently emphasized the necessity for its enforcement, this practice was still in vogue and the committee recommended that the spirit of the resolution should be strictly observed. The committee suggested 'that conscientious effort should be made by all to reduce to a positive minimum any undue length in work hours that emergencies and unforeseen conditions may sometimes demand.' The committee further reported that they were 'not unmindful of the fact that the twelve-hour day has, by its general acceptance and practice over a considerable period of years, become firmly entrenched and that any sudden and arbitrary change would involve a revolution in mill operations. Nor are we at all sure that it would be possible for any one employer, or any number of employers, to inaugurate a shorter hour system, unless a similar policy should be adopted by all employers engaged in the same industry.'

"At the stockholders meeting of April 15, 1912, the report was submitted and unanimously adopted.

Work During War

"Following this action diligent effort was made to eliminate the seven-day week for the employees, and at the time of the precipitation of the World War our companies had made successful progress, and had practically abandoned the seven-day practice. When war was declared and the demand for steel to supply military necessities increased, representatives of the Government insisted that the mills be operated to full capacity. Consequently they were pushed to the utmost, night and day, seven days per week. Very soon after the armistice was signed our companies again took up for active consideration the matters relating to days and hours of work. Since then there have been many meetings of the presidents of our subsidiary companies and the officials of the corporation, at which we have spent hour after hour discussing the practicability of entirely eliminating the seven-day week and 12-hour day for employees. Special committees appointed from the presidents have compiled much valuable data applicable.

Seven-Day Week Abandoned

"As a result, the seven-day week has been discontinued by each and all of the subsidiary companies, and the workmen are all entitled to at least one day per week for rest. Indeed, they are not permitted to work more than six days per week, notwithstanding many are desirous of doing so.

"Although the officials of the Steel Corporation and of the subsidiary companies have devoted much time to the 12-hour-day question, we have not as yet been able to reach a conclusion. Our principal difficulty arises from the fact that the workmen themselves are unwilling to have the hours of labor decreased for the reason that they desire the larger weekly compensation resulting from the longer hours. We are not ignorant of the fact that there is more or less public sentiment against the 12-hour day; and if it were practicable we would be glad to lessen the hours throughout our entire organization. We do not, however, endorse the claim sometimes made by public speakers that we should ignore the wishes of our employees in this respect; nor do we feel certain that 12 hours per day in all cases is necessarily injurious or objectionable. The officers of our respective subsidiary companies who are most in favor of permitting work of 12 hours per day where the work is necessarily continuous are those who have heretofore personally been employed 12 hours per day or more, either in the shops or on the farms, and have reached their present higher positions by reason of their demonstrated ability and success.

The Twelve Hour Day

"The officers of the corporation, the presidents of subsidiary companies and a majority of others in positions of responsibility are in favor of abolishing the 12-hour day, and for this reason and because of the public sentiment referred to, it is our endeavor and expectation to decrease the working hours—we hope in the comparatively near future. We have been disappointed by our inability heretofore to accomplish our purpose in this regard.

Collective Bargaining

"You have read or heard these words. Whatever may be the general conception of the term, we have given the subject, as we understand it, much consideration.

"So far as I am informed, our employees have not requested the adoption of a plan for collective action different from the practice in vogue throughout our companies. Outsiders have occasionally offered suggestions. They have been made by three different groups.

"First, by the labor union leaders who mean by the term, and openly seek to bring about, collective bargaining directly through the labor unions or in such a manner as to secure control of the workmen through the unions, and thus force all the workmen into membership. This, in all their efforts, is the one principal thing sought to be achieved. They oppose openly every kind of collective bargaining that is contrary in form or practice to this idea.

"Second, persons who are really acting in the interest of the labor unions, are or have been members, or at least, believe in them and advocate their existence. Many of them, I think, are disingenuous, to say the least, and purposely conceal their real wishes and intentions.

"Third, a number of public speakers or writers who are able, honest and sincere, believing that workmen, in some cases at least, would be benefited by collective action concerning terms and conditions of employment.

"From our inquiry and study we do not believe any plan for collective bargaining has been put in practice which is better than our own, or has been of real benefit to the employee or employer. On the contrary, it seems to us that experience, up to date, shows that both have been disadvantaged; that there has been less efficiency and higher cost, and that therefore the great consuming public has been injured.

Lesser of Two Evils

"As a matter of fact, according to our information, all the modern collective bargaining plans were adopted under conditions or in times of emergency and on the real, if not disclosed, ground that they were 'the lesser of two evils'; that they would perhaps prevent the unionization of the plants in question. Indeed, the labor unions themselves openly objected to and argued against these plans for these reasons. If, or to the extent this objection has been withdrawn or modified, it is obviously because it is believed by the union labor leaders that the collective bargaining plans in force have not been hostile to, but rather an aid to the labor unions.

"However, it is proper to say that if a plan, better than ours, is developed and proven to be of real benefit to the employees and, at the same time reasonable,

practicable and fair to them, we will not be slow to adopt it.

"We do not endorse experimentation, especially concerning workmen, unless it seems practical and reasonable. I venture the individual opinion that any plan which seeks to deprive the investor of the control of his property and business is inimical to the fundamental ideas of our country and to the public welfare. Any step in this direction is to be deplored. Any nation which adopts it will fail to maintain a leading position in industrial proficiency and progress. A man, or group of men, contending for a different attitude, is opposing self-protection and interest.

Should Be a Stockholder

"It is a fair and wise conclusion that anyone claiming the right to a voice in the management of the property of a corporation should do so through a stockholding interest, and thus share responsibility and liability and profits with all other stockholders.

"Nevertheless, we believe that the employee should not only be treated fairly and justly up to the full measure of practicability, but that he should have the chance to consult as to all terms of employment, either as an individual or in groups of workmen in any department. This has been and is our plan and it has proved to be beneficial and satisfactory to both employer and employee.

"Thus our employees in groups, or as individuals, at all times, have access to the office of the foremen or to any other superior officer, even to the highest.

"We do not look with favor upon the request for an interview concerning our employees by a volunteer outsider, representing only himself or his own selfish interests, and who is known to be actually hostile to both the employer and employee, or to the country.

"It is the unqualified, undeviating policy of our corporation to be polite to everyone. Our instructions to this effect to our whole organization are positive and binding. We are not defiant, combative or inconsiderate.

"In closing, I emphasize the fact that the presidents and other officers and managers of our subsidiary companies are able, conscientious, altogether worthy, and in harmony with the policies I have stated. They are entitled to much credit for the great value of our properties and the success of our enterprise."

New Officers of New York Steel Treaters

The April meeting of the New York Chapter of the American Society for Steel Treating was held Wednesday evening, April 20, at the Machinery Club, 50 Church Street. The feature of the meeting was a lecture on "The Developments of Produce Gas Machines in America," by W. B. Chapman, president Chapman Engineering Co., 11 Broadway, New York. It was illustrated by stereopticon views.

Officers of the chapter for the ensuing year were elected as follows: Chairman, George L. Norris, metallurgical engineer Vanadium Corporation of America, 120 Broadway, New York; vice-chairman, H. J. Fischbeck, metallurgist Wright Aeronautical Corporation, Paterson, N. J., and secretary-treasurer, T. N. Holden, assistant metallurgist E. W. Bliss Co., Brooklyn.

World Production of Coal in 1920

The year 1920 will be a memorable one in the history of the world's coal supply. The prices reached were the highest of modern times and, as usually happens at such a time, the quality of the output deteriorated, says the U. S. Geological Survey. In the last two years of the war the world's output had risen close to the pre-war level. After the armistice, however, the cessation of munitions manufacture and the delay in resumption of normal business curtailed the demand for coal. Industrial disputes both in Europe and America closed many mines late in 1919 and further reduced the supply. Reports received by the Geological Survey indicate that the total output in 1920 was about 1 300,000,000 metric tons. This, although a great increase over 1919, was still 42,000,000 tons short of the output in 1913.

Mechanical Engineers' Chicago Meeting

Some of the papers to be read at the 1921 spring meeting of the American Society of Mechanical Engineers, to be held in Chicago, May 23-26, at the Congress Hotel, are as follows:

The program of the machine shop division will be devoted to the effect of the automobile industry upon machine tools and machine shop practice. Four phases of this subject will be discussed by Henry J. Eberhardt, secretary of the Newark Gear Cutting Machine Co.; Henry J. Hinde, president and general manager Toledo Machine & Tool Co.; R. E. Flanders, manager Jones & Lamson Machine Co.; C. B. Lord, works manager Advance-Rumely Co.

A paper on the "Organization of an Engineering Society" by Morris L. Cooke, consulting engineer, Philadelphia, will be presented at the business session. Its discussion, however, will be carried on during the management session. It is also planned to receive the preliminary report of the committee on terminology, which has been appointed jointly by the Taylor Society, the Society of Industrial Engineers, National Association of Cost Accountants, Industrial Relations Association of America, and the American Institute of Accountants.

This committee has been working for several months on the preparation of a dictionary of terms used in management engineering. The adoption and use of these terms will do much to clarify management literature and assist in the development of the art of management.

A paper will be presented by L. W. Wallace giving an account of the work of the American Engineering Council on the elimination of waste.

At the general sessions the results of a research on oxyacetylene welding and cutting torches will be presented by Robert S. Johnston, engineer physicist of the Bureau of Standards. This research was carried out at the request of the War Department for the determination of a more efficient blowpipe. A new method of conducting capacity tests on low vacuum pumps will be given by Snowden B. Redfield, engineer in charge, Easton engineering department, Ingersoll-Rand Co. The subject of boiler water analyses will be presented by J. R. McDermet, research engineer, Elliott Co. H. B. Reynolds, Interborough Rapid Transit Co., will present the results of a series of tests on a 30,000-kw. General Electric steam turbine installed at the Fifty-ninth Street power house of the company in New York.

American Engineers to Present Medal to Sir Robert Hadfield

To express the obligation which the world owes to the engineers of Great Britain for the part they played in winning the war, the engineers of America will send a mission to London this summer. The mission, consisting of nationally known engineers and representing the so-called founder societies, will witness the award of the John Fritz medal to Sir Robert Hadfield at the opening meeting of the Institution of Civil Engineers in London on June 29.

The inability of Sir Robert to come to the United States to receive the medal moved the trustees of the board of award to make the ceremony of presentation in England the occasion for an international expression of appreciation.

The deputation to England will consist of a representative of each of the four Founder Societies represented on the John Fritz medal board of award as follows:

Charles T. Main, Boston, the American Society of Civil Engineers; Colonel Arthur S. Dwight, New York, American Institute of Mining and Metallurgical Engineers; Ambrose Swasey, Cleveland, American Society of Mechanical Engineers; Dr. F. B. Jewett, New York, American Institute of Electrical Engineers. Dr. Ira N. Hollis, president Worcester Polytechnic Institute, and past president of the American Society of Mechanical Engineers, will accompany the deputation and bear the message from the American engineers to the British engineers.

Shovel Attachment for Excavator

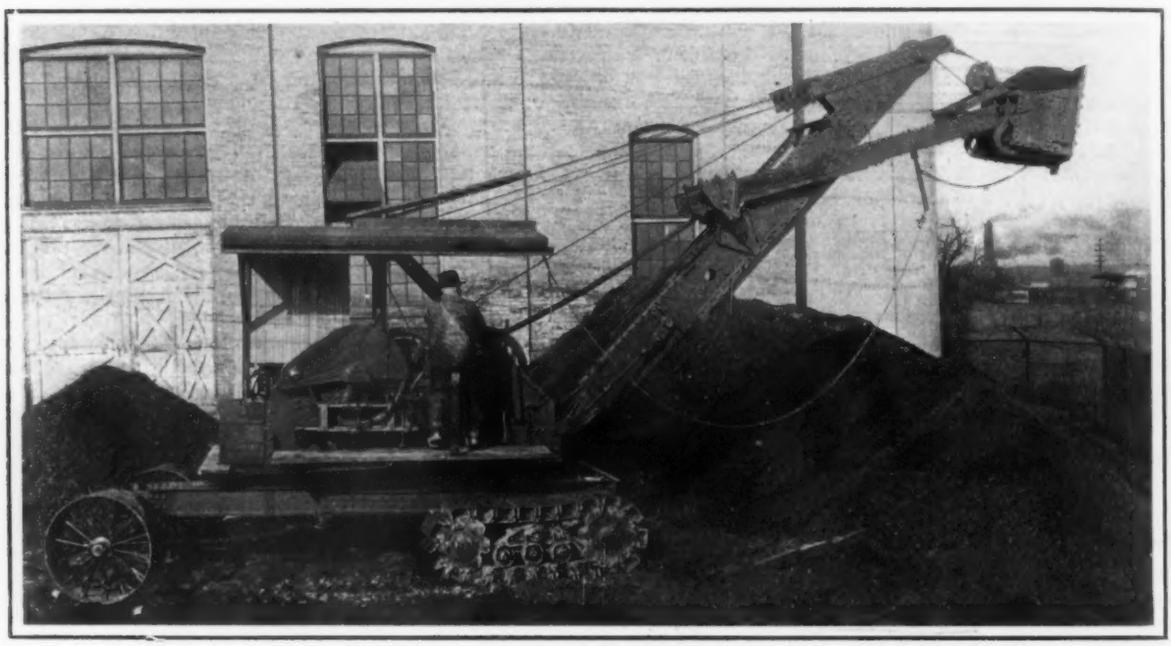
The Pawling & Harnischfeger Co., Milwaukee, is marketing the shovel attachment shown, for use on its Nos. 205 and 206 K. C. excavators. These machines were designed as general utility gasoline cranes and excavators and the new attachment is intended to extend the combination, making a shovel crane and an excavator crane in one machine.

The new parts required are a dipper and dipper handle, a boom, a boom foot socket casting, thrusting shaft, operating lever bearing, brake treadle with ratchet and necessary levers, thrusting chain and a set of boom swing braces. It is pointed out that these parts can be applied to all machines without additional drilling.

The dipper is of ½ cu. yd. capacity. The dipper handle consists of two members designed to straddle the boom, each member having an oak core, armored with steel plates on all four sides. The boom is of structural steel plates and shapes, in the form of a box section, so designed that all the rivets are driven from the outside and are therefore easily accessible. The boom foot is a single annealed steel casting riveted to the structural member.

The thrusting shaft interchanges with the forward drum shaft of the regular machine. It is provided with a sprocket, loosely mounted on the shaft for operating the shipper shaft thrust. Suitable mechanism is provided to enable this sprocket to be rotated in either direction for thrusting out, or drawing in the handle.

The shovel attachment is operated by the standard levers on the machine, with the exception of an additional brake attachment to one of the brake treadles. This attachment is easily removed for re-converting the machine back into a drag line or for operation with a clamshell bucket.



Shovel Attachment Added to Pawling & Harnischfeger Co. Excavator. The attachment can be removed to re-convert the machine into a drag line or for operation with a clamshell bucket

New Record at Pueblo Wire Mill

The wire mill at the Minnequa Steel Works of the Colorado Fuel & Iron Co., Pueblo, Col., made a new record in January, with a total of 28,192 tons. The previous high record for a month was in May, 1912—26,751 tons. In May, 1912, the wire mill worked 56 12-hour shifts, making an average of 477 tons per shift. In January, 1921, the mill worked two 8-hour shift per day with an average overtime of 42 minutes, or a total of 57 shifts of 8 hours and 42 minutes each, making an average of 494 tons per shift. The production per hour was 39¾ tons in May, 1912, and 56¾ tons in January, 1921.

Employment in New York State Factories

In its monthly survey for February the bureau of statistics of the New York State Industrial Commission reports a decrease from February, 1920, of 22.5 per cent in the number of employees engaged in manufacturing establishments. This is accompanied by a decrease of 21.6 per cent in total wages paid, indicating that the average worker this February received 1.1 per cent more money than the average a year ago. Comparing February with January, 1921, there was a gain in number of employees of 1.8 per cent, but a drop in total wages paid of 1.2 per cent, indicating a decrease of 2.9 per cent in the average wage. February, 1921, found 6 per cent fewer workers employed than June, 1914, but total wages paid were 101 per cent greater, indicating an advance per man averaging 111 per cent, while retail food prices were up only 60 per cent.

In the division of industry classed as "Metals, Machinery and Conveyances," the relative decrease during the year in both number of employees and total wages was about the same as for the general list, but the drop from December was somewhat heavier. Index figures, based on June, 1914, as 100, are given in the table, showing that the average wage a year ago was keeping just about on a par with the rise in food prices. Since then food has lost 41.7 per cent of its rise, while wages have shown a net advance of 1.1 per cent in the general list and 0.3 per cent in the metals group.

Most striking of all in the decrease in employment in the metallic industries is the group of structural and architectural iron workers, where only 4 men are now employed to each 7 in 1914. But the heaviest drop in the month was the 14.9 per cent in men engaged in building and repairing railroad rolling stock. The average wage in February in the metal list was $28.97, the highest for any February, and comparing with $14.17 in February, 1915. Both figures are well above the figures for the general list, which were $26.77 in 1921 and $12.41 in 1915.

	June, 1914	Jan., 1920	Dec., 1920	Jan., 1921	Feb., 1921
All Industries					
Number of employees.	100	124	101	93	94
Total wages paid.....	100	259	225	203	201
Average wage	100	209	223	217	211
Retail food prices....	100	203	180	174	160
Metal Working					
Number of employees.	100	157	131	118	112
Total wages paid	100	316	289	253	225
Average wage	100	201	221	214	201

Appointment of a new Italian Tariff Commission to make a full and general investigation has been proposed, according to a report received by the Bureau of Foreign and Domestic Commerce.

FURNACE MEN MEET

Standardization and Other Topics Discussed at Cleveland Meeting of Southern Ohio Pig Iron and Coke Association

The sampling of iron ore was the principal topic of discussion at the meeting of the Southern Ohio Pig Iron and Coke Association held in Cleveland, April 18. The association met in Cleveland on the invitation of M. A. Hanna & Co., holding its session at the Hanna offices and later being entertained by the Hanna firm at luncheon at the Union Club.

The discussion on sampling ore hinged on the question whether one or two chemists should be employed. For several years two chemists have inspected ore cargoes and the blast furnaces have one inspector for both the Cleveland and Toledo docks. The committee on analysis and sampling suggested that sampling be done by one chemist and that there be an inspector at both Cleveland and Toledo and that if the plan did not work out satisfactorily, the practice of having two chemists could be restored. The particular question raised was whether it is advantageous to have two chemists, the point being made that if a second chemist does not insure better results, it is a waste of money to employ more than one.

After the subject had been quite freely discussed, a decision was made by vote that there should be only one chemist except where the ore shipper recommends that two chemists be employed.

The committee on reports and records submitted a proposed form of questionnaire on the subject of monthly operating records. President R. H. Sweetser said that the association aims to bring about the best furnace operation possible and the members should get their furnace practice standardized. After discussion, the matter was referred back to the committee for a further report.

The subject of a theoretical furnace yield was discussed briefly and was referred to the committee on standards, with power to investigate and report at the next meeting.

The question was asked as to whether furnaces in the Wheeling Valley District should be entitled to the service of ore inspection at Lake Erie ports. It was decided to allow other consumers to participate in the inspection if they desired to do so and would pay their share of the expenses. It was stated that the cost of inspection last year was 1¾ mills per ton, which was pro-rated between the members.

Accident Prevention

A written report of the committee on accident prevention, which had been prepared by L. W. Adams, until recently connected with the Ashland Iron & Mining Co., was read. He suggested that the tables prepared by the National Safety Council be followed in reporting accidents and that monthly reports be kept and submitted every three months so that every member can make comparison of accidents in his plant with those in other blast furnace plants. The report also suggested that committees of furnace superintendents, foremen and employees be appointed to investigate the cause of accidents and design methods for their elimination. It was suggested that the employees' committees be made up of men from different departments who should make an inspection of a plant at least twice a month and make such recommendations as the committee sees fit. The report was accepted and the recommendations approved.

The American Rolling Mill Co. reported that it expected to take action this week requiring the physical examination of all employees in its Columbus, Ohio, plant. It was stated that a rule to this effect was regarded as of especial importance at the present time because of legislation enacted by the Ohio Legislature on the subject of occupational diseases.

Testing Coke

Acting on the suggestion of A. C. Fieldner, United States Bureau of Mines and member of the committee on coke tests of the American Society for Testing Materials, the committees on standards, sampling and analyses will co-operate with the committee of the Society for Testing Materials to provide a standard method for testing the structure and hardness of coke. J. A. Barrett, superintendent Ohio Works, Carnegie Steel Co., explained the method of testing the hardness of coke in a tumbling barrel.

Two new members were elected to the association, these being Standish Meacham of the Hanging Rock Iron Co. and Union Furnace Co., and D. H. Putnam, Semet-Solvay Co., Ashland.

During the afternoon, a joint session of the Pig Iron and Coke Association was held with the Cleveland Chemists and Ore Samplers. Among the subjects discussed was the sampling of coal. Mr. Sweetser stated that losses from slate, clay and dirt in coal were very heavy and that it is now time to turn attention to the proper sampling of coal.

The members of the Pig Iron and Coke Association met with the Ohio section of the American Institute of Mining and Metallurgical Engineers at dinner at the Statler Hotel and in the evening a meeting was held during which two papers were presented, one on the "Determinating Factors of Blast Furnace Capacity," by R. H. Sweetser and the other on "Iron Mining in the Lake Superior District," by J. C. Metcalf, engineering department of Pickands, Mather & Co.

It was decided to hold the next meeting in Columbus in June.

May Modify Coal Rates

A substantial modification of freight rates on coal going to the Northwest and which would put operators in the Pittsburgh and adjacent fields more nearly on equal footing with those in Illinois and Indiana, is being agitated and apparently is making some headway. Under present tariffs, Indiana and Illinois coal producers have an all-rail freight rate into the Northwest which is about 56c. per ton less than the rail-and-water rate from the Pittsburgh district. It is now reported that the railroads tapping the upper lake ports have agreed to reduce the rate on coal 28c. a ton, provided the railroads carrying coal to the lower lake docks make a like cut in their tariffs. In the event that the Interstate Commerce Commission approves this change, the prospects for a normal movement of coal from western Pennsylvania, West Virginia and adjacent fields to the Northwest would be considerably heightened. If the freight rates are reduced it is improbable that they will refer to other than shipments billed to Duluth, Superior, St. Paul and Minneapolis.

Correction

In an article, "Muffled Arc Electric Furnace for Non-Ferrous Industry," in THE IRON AGE, April 14, the first paragraph of the second column on page 985 should read as follows:

The 1500-lb. furnace melts yellow brass, pouring at 1100 deg. C., with a power consumption not exceeding 270 kwhr per ton, operating 24 hr. a day with one heat every hour. This makes the total capacity for the furnace 18 tons of metal in a 24-hr. day. The 50-lb. furnace melts yellow brass, pouring at 1100 deg. C. at the rate of from 100 to 125 lb. per hr. with a power consumption of from 35 to 40 kwhr per 100 lb. of metal, providing the furnace is up to temperature at the beginning of the run.

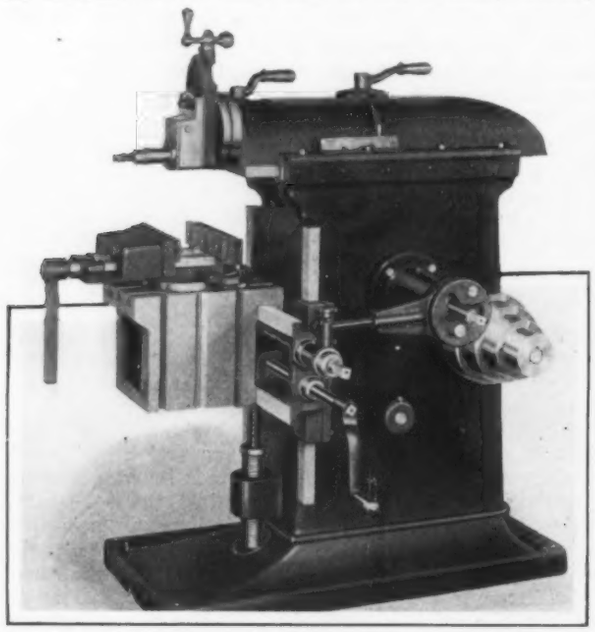
A revised list of products of the Brier Hill Steel Co., Youngstown, Ohio, recently compiled, includes coal, limestone, ore, beehive and by-product coke, tar, gas, sulphate of ammonia, benzol, toluol, xyol, light and heavy solvent naphtha, naphthalene, washed metal, basic and Bessemer pig iron, low phosphorus pig iron, forging and rerolling billets, forging and rerolling slabs, sheet and tin bar, sheared plates, blue annealed, black and galvanized sheets, formed roofing and siding, single and double pickled sheets, automobile and furniture stock, and deep drawing stock.

Single-Geared Crank Shaper

A 12-in., single-geared crank shaper with a 14-in. stroke intended to meet the demand for an accurate, medium-duty machine for use on all classes of work has been brought out by the Whipp Machine Tool Co., Sidney, Ohio.

A distinctive feature is the cone pulley shaft which has three bronze bearings, one on each side of the bull gear pinion and one directly under the center of the cone pulley. The first two are intended to overcome any tendency of the pinion to spring away from the bull gear under a heavy cut, while the other bearing is intended to preserve shaft alinement under a heavy belt pull, without the necessity of an outboard support.

The overall width of the crossrail guides on the column is greater than usual, providing a rigid guide for the crossrail. This feature also tends to maintain alinement more accurately, and at the same time puts an external rib on each side of the column, thereby



12-in. Single-Geared Crank Shaper with 14-in. Stroke. The rocker arm is designed to give a key-seating capacity for shafts up to 2½-in. diameter

adding to its stiffness. The column is supported on the base by a three point bearing which tends to overcome any tendency to distortion of the column or the base when they are bolted together. The rocker arm has long centers for a shaper of this size, a feature which is said to be responsible for the unusual amount of power that can be put back of the cutting tool. The rocker arm is designed to give the shaper a key-seating capacity for shafts up to 2½ in. in diameter. The swivel head has an eccentric lock and is graduated for accurate setting. The automatic cross feed can be adjusted for the different feeds while the machine is running. Stroke adjustment is accomplished by a shaft through the center of and extending beyond the end of the bull gear shaft and the down-feed screw is provided with a bull crank handle and a micrometer collar reading 0.001 in.

The horizontal travel of the table is 18 in. and the vertical travel 14 in. The maximum distance from table to the ram is 16 in., and from feed to the head is 6 in. The table is 9 in. wide, 13½ in. long and 12 in. deep. The shipping weight is 1350 lb.

Meeting to Consider Functional Management

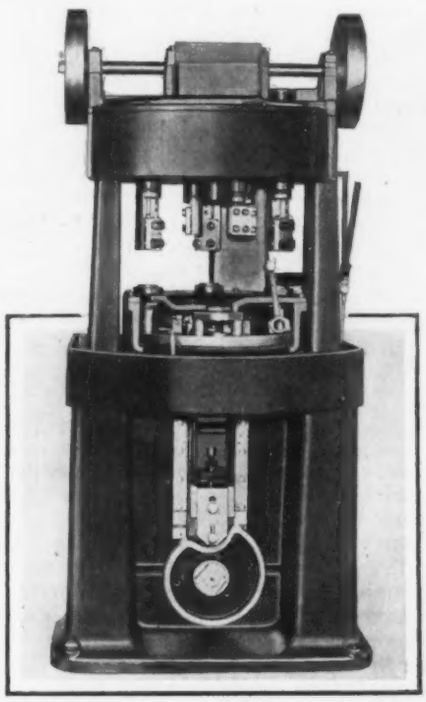
Functional organization and management is the topic of the meeting of the New York section of the Taylor Society in the Flatiron Building restaurant, New York, at 6:30 p. m., April 21. Henry W. Shelton, former secretary of the Taylor Society, will be the speaker. He has been a functional foreman in a Taylor system plant, assistant professor of organization and management at the Amos Tuck School of Administration and Finance, Dartmouth College; head of the personnel section of the staff of the vice-president in charge of administration in the Emergency Fleet Corporation and consulting engineer in charge of the reorganization work at the Wilmer-Atkinson Co., Philadelphia. Among the questions to be brought up are: How far should functionalization be carried? Does functionalization tend toward narrowness? Mr. Shelton was a sales executive and was driven into scientific management by his realization of the wastes due to the lack of coordination between the selling and production sides of an organization.

Multiple-Spindle Vertical Boring Machine

A multiple-spindle vertical boring machine, on which the spindles rotate but are fixed in a vertical position and the rotary fixture and work fed up to the cutting tools, has been placed on the market by the Manufacturers' Consulting Engineers, McCarthy Building, Syracuse, N. Y.

The machine was developed primarily for rough boring, semi-finish boring and reaming the large and small holes in connecting rods, although it is also adaptable to the rough boring, semi-finish and finish boring of engine cylinders, either singly or en bloc. Machining different parts on the same machine requires changing the head, the rotary fixture and the cam. The cam mechanism located at the base of the machine permits of variable feed and quick return. On cylinders requiring finishing at the end of the bore or at the cylinder head, the bottoming operation is taken care of automatically and in conjunction with the boring operations.

The machine time for producing a connecting rod, rough boring, semi-finish boring and reaming both the



Multiple-Spindle Vertical Boring Machine for Connecting Rod Holes. The rotary table fixture and work are fed to the cutting tools. The cam permits of variable speed and quick return

large and small holes on the machine is 65 seconds. The large hole is 1⅞ in. in diameter and 1¾ in. long. A larger machine of this type will complete more than one rod per cycle if desired.

A similar machine for boring cylinders will rough bore, semi-finish bore and ream a 3¼-in. cylinder 9 in. deep in 1½ min. If it is desired to finish the bottom of this bored hole, one cylinder will be completed in 1 min. and 42 sec.

The price of 80 per cent ferromanganese has been reduced from 6000m. to 5700m., and that of 50 per cent ferromanganese from 4950m. to 4675m. per ton, says the London *Ironmonger*.

Mannesmann Process Rolling Machinery*

Design of the Rolling Mill and Its Machinery — Details of Adjustment Devices and Guides and of the Mandrel

DIFFICULTIES with the angle drives originally chosen, and described in the article of Prof. Reuleaux, caused them later to be entirely discarded. The rolling-mill designers of the Mannesmann works have designed a drive, still generally in vogue, the arrangement of which may be seen in Fig. 23. The drive from the main shaft, passing through a spindle housing, turns the working rolls by means of a geared transmission and long coupling-rods. By this arrangement, and particularly through these long coupling-rods, it is made possible to arrange a leading guide between them, which serves to introduce the ingot into the rolls.

The wobblers, which also presented considerable difficulty in the early years, are to-day constructed like those of ordinary rolling mills. The arrangement of the gears in the spindle housing, for the small rolling mill, is diagrammatically presented in Fig. 24. On the fly-wheel is a brake which will quickly bring it to rest in case anything goes amiss. In large plants it would be possible to have also an electric brake to avoid long periods of slowing down.

Resting on ordinary base plates, the roll housings have the form shown in Fig. 25. For the roll bearings horizontal guides are arranged, in which are placed chocks with spherical bearings, permitting the rolls to be adjusted at will at either the front or rear ends. In

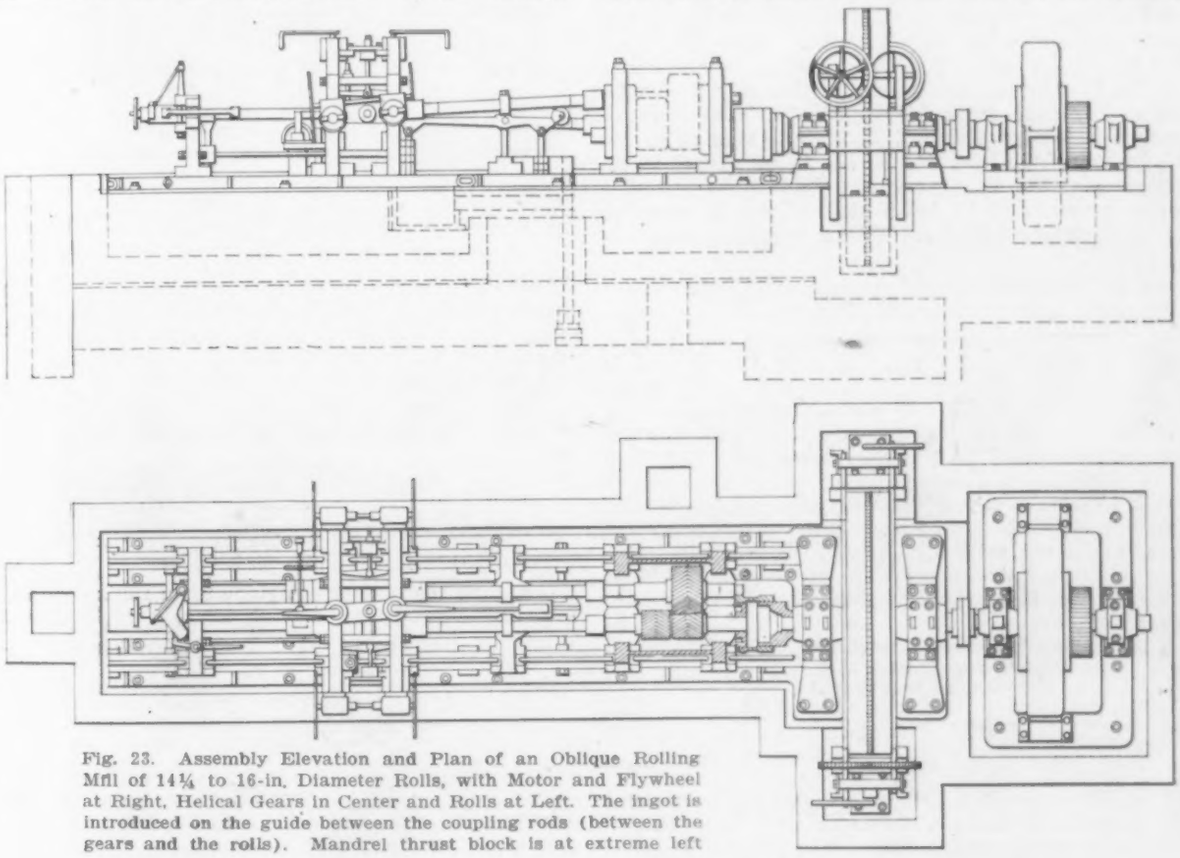


Fig. 23. Assembly Elevation and Plan of an Oblique Rolling Mill of 14¼ to 16-in. Diameter Rolls, with Motor and Flywheel at Right, Helical Gears in Center and Rolls at Left. The ingot is introduced on the guide between the coupling rods (between the gears and the rolls). Mandrel thrust block is at extreme left

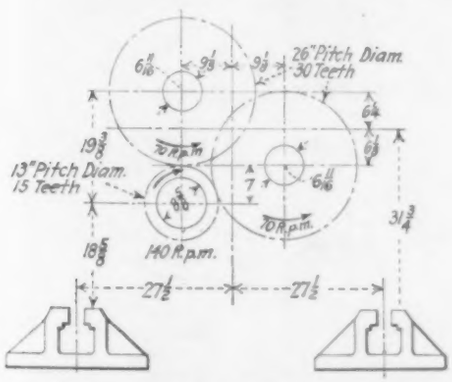


Fig. 24. Gears of Roll Drive of the 14¼-in. Hollow-Rolling Mill

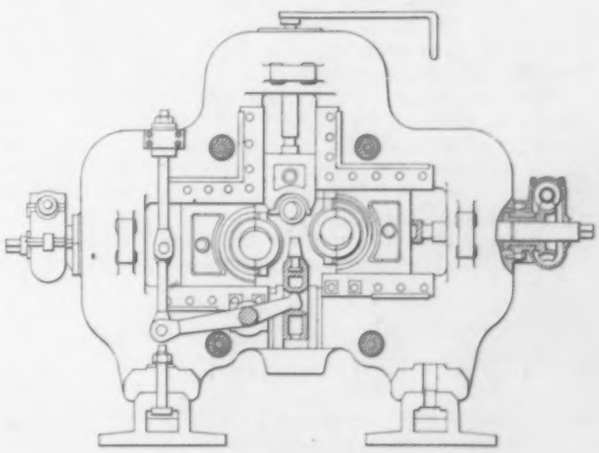


Fig. 25. Roll Housing of the 14¼-in. Oblique Rolling Mill, Showing Worm Gearing for Adjusting Obliquity of Rolls. Arrangement of Lower Guide and Screw Adjustment of Top Roll

*Abstract of doctoral thesis of Dr. Karl Gruber; translated from *Stahl und Eisen*. Two installments were published in THE IRON AGE, April 7 and 14.

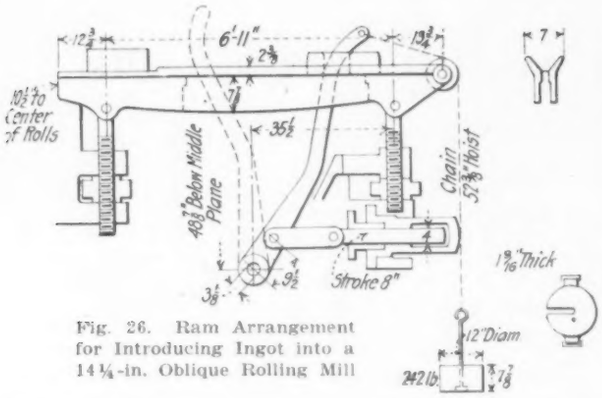


Fig. 26. Ram Arrangement for Introducing Ingot into a 14¼-in. Oblique Rolling Mill

the middle above is the guide for the top roll, in which likewise is an adjustable chock. The three roll bearings are thus adjustable, and the accessory chocks are held by spring pressure applied to the adjusting screws so that the bearings may be tight. Below the upper roll the sliding scale is set in a groove.

The feed trough has 2¾ in. vertical adjustment for ingot diameters from 3⅛ to 6¼ in. The ingot is pushed in the trough about 45 in. by a ram (Fig. 26). If, including the ram, 440 lb. are to be pushed in the trough and 242 lb. of counterweight to be raised, a water pressure of 17 to 18 atmospheres is necessary in the hydraulic cylinder. With a working pressure of

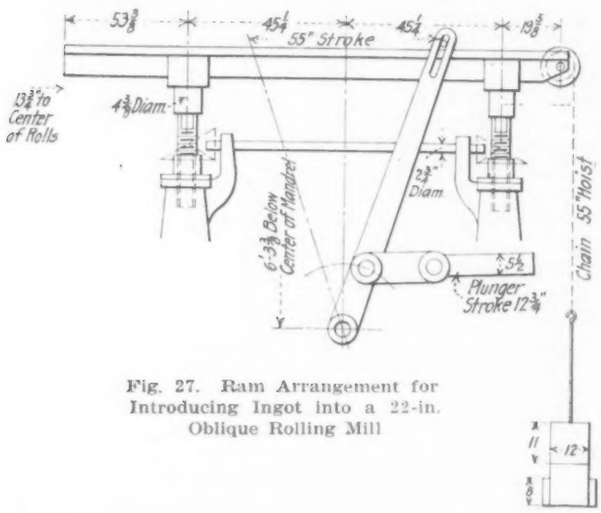


Fig. 27. Ram Arrangement for Introducing Ingot into a 22-in. Oblique Rolling Mill

50 or 100 atmospheres, therefore, the ingot can readily be entered between the rolls until they grip it. The lever must move in the slot in the middle of the guide, because the bearings of the coupling rods come so near to the guide that it is not possible to grasp hold of it. The coupling rods, 10 ft. long, have center bearings of 6 in. diameter and 5½ in. long.

For the larger 22-in. rolling mill the coupling rods are 11 ft. 10½ in. long and 9⅞ in. in diameter. The bearings of the coupling rods and the supports of the guide troughs are arranged symmetrically to the coupling rods, and 7 ft. 6½ in. apart. The two housings (Fig. 27) thus carry the screw spindles of the guide, the bearing supports and the hydraulic cylinder. The lever of the ingot-pushing mechanism, because of the

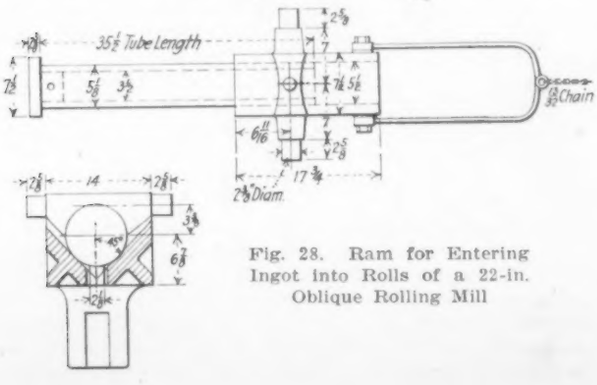


Fig. 28. Ram for Entering Ingot into Rolls of a 22-in. Oblique Rolling Mill

double bearing, can move freely and be forked above. Its pivot rests in a cross-piece between the two housings. To allow for an increase of the ingot size from 5½ to 17¾ in., the guide trough must be lowered about 8⅝ in. For tapered rough ingots the guide trough must be slightly inclined, so that the axis of the ingot may enter exactly horizontally between the rolls.

As the largest ingot is 17¾ to 17 in. diameter and 48 in. long, it weighs 3100 lb. and the ram behind it 325 lb. These together offer about 330 lb. frictional resistance. To this must be added the counterweight, 350 lb. The force at the point of application of the plunger is accordingly 4.3 (1100+350)=6250 lb. To produce this there must be exerted upon the 5½-in. plunger a hydraulic pressure of 23 atmospheres. The ordinary hydraulic pressure of 50 to 100 atmospheres therefore affords a pressure sufficient to force in the ingot. The ram (Fig. 28) is hollow and carries an extension piece fastened to it with key or screw. An ingot 40 in. long can thus be pressed up to the rolls.

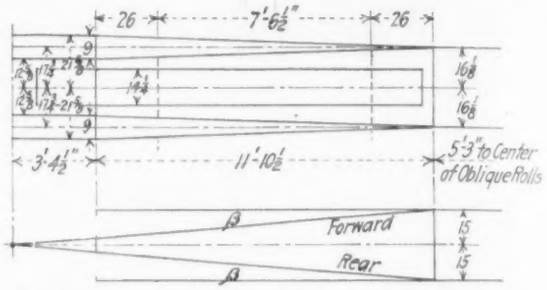


Fig. 29. Spindle Positions of a 22-in. Oblique Rolling Mill

The oblique position of the coupling rods (Fig. 29) with reference to the axes of the pinions gives

$$\tan \beta_1 = \frac{\sqrt{(11.5)^2+(5.5)^2}}{142.5} = \frac{12.7}{142.5} = \frac{1}{11.2}$$

In the coupling boxes on the rolls there is very little obliquity, but more in the pinions.

Fig. 30 shows an ingot guide for a rolling mill with

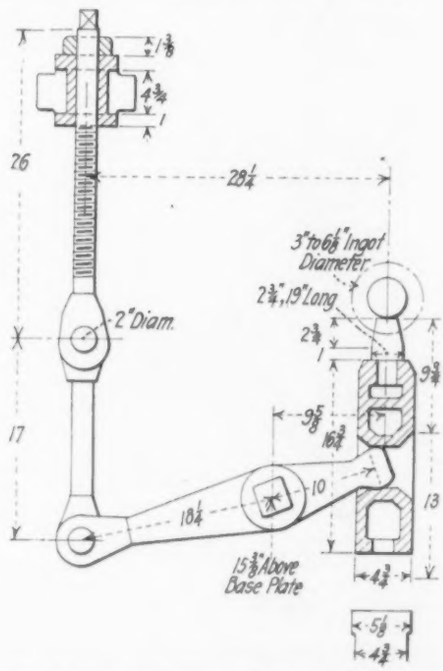


Fig. 30. Lower Guide for Ingots Between the Rolls of a 14¼-in. Oblique Rolling Mill

rolls 14¼ in. in diameter. The cast iron guide carriage or slide, carrying the wrought iron guide bar, is inclosed between the two roll housings. The shaft, 3 in. square, is carried in the two 3-in. diameter bearings on the two housings. To the square shaft is attached a double-armed lever and a shorter lever 17¾ in. distant. The slide is to be lowered only 1 9/16 in.

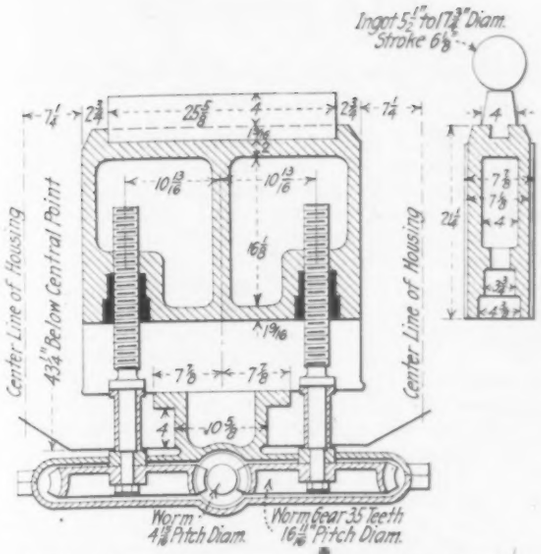


Fig. 31. Lower Guide for Ingots Between the Rolls of a 22-in. Oblique Rolling Mill

In the 22-in. rolling mill the guide carriage (Fig. 31) is raised and lowered by two screws turned by worm gears having the worm between them. On the shaft, outside of the housings, is the adjusting hub with six radial holes for inserting the lever rod. Since the ingot lies between the rolls and above the central plane by about 1⅝ in. in the small mill and 2 in. in the large one, this lower guide is of minor importance and is installed only for safety. So long as the rolling process lasts, the hollow ingot turns upon the mandrel,

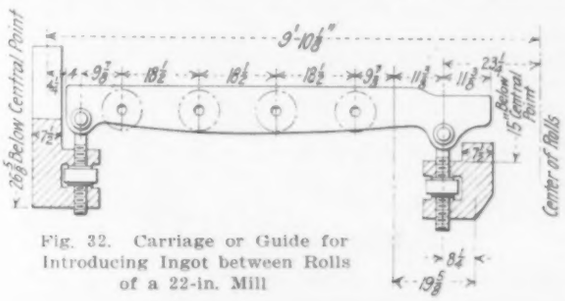


Fig. 32. Carriage or Guide for Introducing Ingot between Rolls of a 22-in. Mill

which is supported at one end by the mandrel counter-bearing and at the other end by the hollow ingot. When the rolling process ends, the hollow ingot with the mandrel drops into the ingot guide trough, from which, after opening the mandrel counter-bearing, the ingot can be removed. In the large rolling mills the ingot

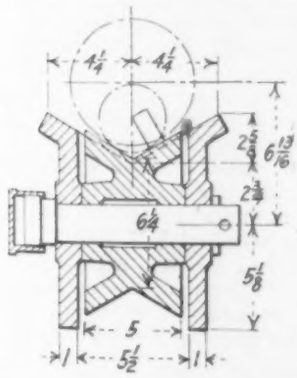


Fig. 33. Cross Section of Ingot Carriage, Showing Roller for Delivering the Ingot to the Rolls

guides are provided with rollers adjustable in height (Figs. 32 and 33).

At the beginning of the rolling process the mandrel is supported only by the counter-bearing and must be held at the front end between the rolls, until it is taken in by the advancing hollow ingot. To do this the mandrel-centering device shown in Fig. 34 is employed, with which, by means of a foot lever, the mandrel is held in its proper position until the ingot has passed over it. As soon as the mandrel position is thus fixed, the centering appliance is released.

In Fig. 35 a mandrel counter-bearing is shown for a mill of 14¼ in. roll diameter. It consists mainly of a bearing bracket which turns on a pivot, and can be fastened in its closed position by means of a hook shackle. This bearing bracket carries a thrust bearing in which a spindle turns, provided at the front with a square socket to support the mandrel. The rotation of the mandrel is transmitted to the spindle, which turns in the step bearing during the rolling process. The mandrel's resistance in the rolling process is less

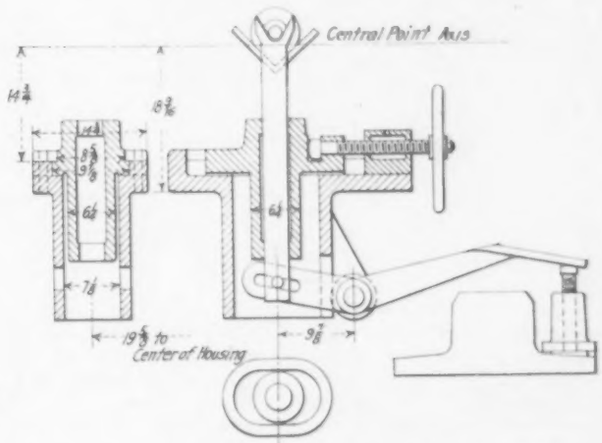


Fig. 34. Mandrel-Centering Device for 14¼-in. Oblique Rolling Mill

if it is free to turn. To make it possible to set the mandrel in its correct longitudinal position, the step bearing can be moved back and forth with an adjusting screw. The mandrel counter-bearing works as follows:

The mandrel lying in the guide trough is inserted in the socket, after which the bearing is closed. Then with the hand wheel the step bearing is screwed far enough forward to give the mandrel its proper position. At the end of the rolling process, when the hollow ingot rests on the mandrel, the shackle hook may be opened and the ingot drawn away from the mandrel. After a new mandrel of the same length is inserted, the counter-bearing may again be closed, and the centering device holds the mandrel between the rolls until it is

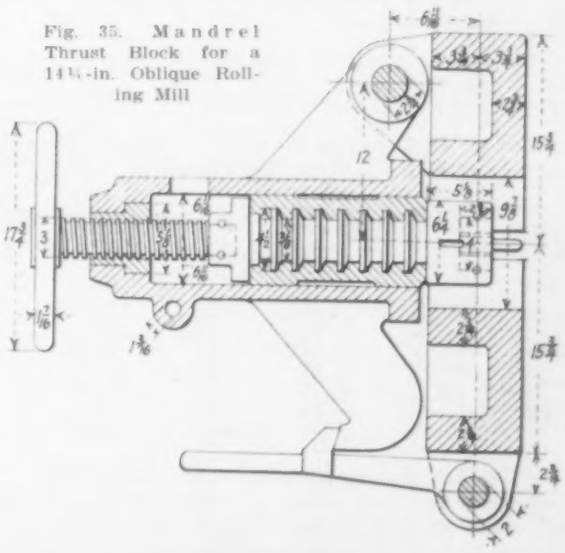


Fig. 35. Mandrel Thrust Block for a 14¼-in. Oblique Rolling Mill

taken up by the next hollow ingot. The mandrel counter-bearings of the 22-in. rolling mills are provided with hydraulic appliances for adjusting the step bearing.

The top roll, placed above the two side rolls and thus closing the upper part of the pass, is subjected to about one-third of the pressure acting between the principal rolls. Its direction of rotation is the same as that of the main rolls. The top roll (Fig. 36) is set in a horizontal plane 5¾ to 7¼ in. above the central point of the main rolls, and at such an angle that the movement of its periphery is adapted to the helical

motion of the ingot. As tan $\delta_1 = 23:380 = 0.0606$, thus $\delta_1 = 3.5$ deg.

Since S_x, according to experience, may be reduced to about one-half by reason of the mandrel resistance,

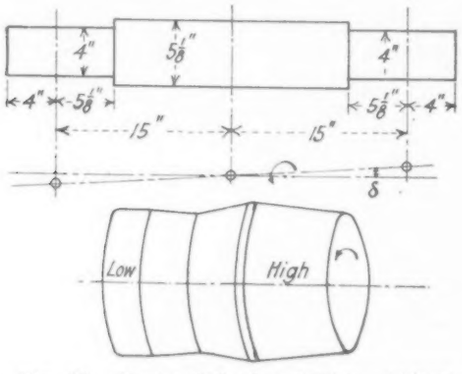


Fig. 36. Upper Roll of a 14¼-in. Oblique Rolling Mill and Its Relation to Tapered Oblique Rolls

the angular position $\delta = 3.5$ deg. for the upper roll is modified to conform. Also the angular position of the upper roll is so adapted to that of the main rolls that the rolls and bearings have sufficient room.

(To be continued)

Heat Treated Steel Castings of Chrome-Molybdenum Steel

Some experiments have recently been made in the production of chrome-molybdenum alloy steel castings by the Michigan Steel Castings Co., Detroit, which afford interesting results. The steel was made in electric furnaces and the castings, which were of various sizes, were subjected to a special heat treatment. The composition was approximately:

	Per Cent		Per Cent
Carbon	0.27	Chromium	1.00
Manganese	0.94	Molybdenum	0.50

The heat treatment to which the castings were subjected was as follows:

Annealing at 1650 deg. Fahr. and held for 2 hr. at 1575 deg. Fahr. Then quenching and drawing at the different temperatures shown in table of results.

The physical tests of the test pieces taken from the castings after the heat treatment were as follows:

Drawn at Deg. Fahr.	Elastic Limit, Lb. per Sq. In.	Tensile Strength, Lb. per Sq. In.	Elongation, Per Cent	Reduction of Area, Per Cent	Elastic Ratio, Per Cent
1050	132,800	141,520	8.0	30.8	93.4
	141,500	153,900	10.5	28.7	91.9
1150	107,440	124,880	18.0	47.9	86.0
	115,600	131,800	14.0	37.3	87.6
1250	81,520	104,000	20.0	50.3	78.3
	88,900	110,400	20.0	43.0	80.5
1300	75,900	99,400	22.0	52.7	76.4
	76,400	103,000	18.5	52.8	74.1
1350	66,600	100,000	21.0	54.1	66.6
	65,800	98,900	21.0	51.1	66.5

A feature of these results is the high reduction of area combined with unusually high tensile strength. Still more striking is the range of elastic ratio. The best results are those showing the greatest elongation and reduction of area, combined with a high elastic ratio, obtained when the drawing takes place at 1250 deg. and 1300 deg. Fahr.

It is stated by the company that a number of the castings of the above composition and heat treatment were in the form of 3-in. diameter shafts, while others were cast as blocks, which were used by a large steel company as hammer blocks. Some of those in shaft form were used as axles in which service excellent results have been reported, while of the hammer blocks equally satisfactory results are recorded.

ZINC INDUSTRY

Secretary Hoover Confers with Representatives of the Institute

WASHINGTON, April 19.—Aid through the Bureau of Foreign and Domestic Commerce for the domestic zinc industry was the subject of a conference between Secretary of Commerce Hoover and representatives of the American Zinc Institute last Thursday. The existing depression of the industry, which, it is said, is operating at only about 30 per cent of its capacity, was pointed out and proposals for a survey of foreign markets with a view to developing export trade were made. The industry is disturbed over both the labor and commercial situation in Europe. It is said to have been made evident that producers in European countries are organizing to build up foreign markets, indicating that competition is going to become keener. Another problem is the fact that large quantities of zinc which had been shipped to the allied governments from America during the war now are being shipped back to this country. The institute representatives spoke of the need of tariff, but this, as pointed out by Mr. Hoover, is a question for Congress to handle. The department, however, will co-operate with the domestic industry in an effort to build up a greater export trade, although producers do not think there is any likelihood of much development in this direction in the near future. This co-operation will be made partly through service committees being named by Secretary Hoover, who is selecting them from various industries of the country.

It is recognized that so far as shipments of American zinc back to this country are concerned, this is only a transitory situation. Of more serious concern is the fact that France and England during the war built up their zinc industries to a considerable extent, and will be greater factors than ever before in the world's markets, while Belgium and Germany, the chief competitors of American producers in the past, are expected to continue to be important factors. Mr. Hoover referred to the American zinc industry as one of the key industries of the country and said that it needs encouragement.

Encouraging Building

Encouragement of the building trade also is being fostered by the Department of Commerce with the aid of a group of experts who are working with the Bureau of Standards, looking to the establishment of a standard building code. In this connection there has been some interest shown in a bill introduced by Senator Fletcher of Florida, providing for the examination and testing of products entering into building construction.

While some features of this bill are not looked upon as being constructive, it is felt that the chief aid that can be given by the Government is through the setting up of standards and perhaps the selection of a referee in cases where producers and contractors have a difference of opinion as to the quality of production.

It has been pointed out that a great number of cancellations of contracts for American material have been made by foreign buyers under the pretext that the material was not up to the standard and it is claimed that if a code were established and the quality of the material determined before the contracts were made this would avoid the possibility of resorting to claims, often made with no justification, that the material did not meet the specifications.

The Stockholders' Protective Committee of the National Conduit & Cable Co. has mailed a circular to shareholders which recommends that they subscribe to a new issue of 8 per cent cumulative preferred stock, providing $1,200,000 additional money, in the event that holders of the company's bonds will agree to a reduction in the net quick asset provision from 100 to 50 per cent, as well as a further extension of the mortgage to 1931. The company's bonds outstanding mature in 1927.

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Labor Unionism and Prosperity

Before the annual meeting of the United States Steel Corporation last Monday Judge Gary said: "I firmly believe complete unionization of the industry of this country would be the beginning of industrial decay" and that success of the labor union program "would be the control of shops, then the general management of the business, then of capital and finally the Government." What has occurred in England in the past few days gives point to this utterance. To what else has labor unionism in Britain been tending?

Judge Gary might have pointed out that prior to 1890 the United Kingdom made more pig iron than the United States, while at the present time we have four times the British capacity. What are the causes of this change? Engineering skill is available in each country. Metallurgical facts are known. Britain must import some iron ore, but we move iron ore a greater distance within our borders. One great difference between the industries in the two countries has been that in the United States the men follow the machinery while in the British industry usually they do not. Often in conversations between American and British manufacturers the American has asked, "Why do you not adopt this machinery?" and the reply has been, "Our men would not get the results from it." A debater who supported the proposition that the chief reason for the American iron industry's growth to four times the size of the British iron industry in 30 years is that this country has had the open shop and Great Britain the closed shop, would have a strong case, even though required to base it on this one argument against the whole field of arguments.

Prosperity consists in advancement of the people in material things. If in a year a household acquires more new furniture and carpets than enough to balance the wear of the existing equipment it has prospered in this respect. If the individual's clothing is of better quality or in better condition at the end of a year than at the beginning he has prospered in that regard. If the family is able to live in a better house it is prospering. If these things come to all the people the country is prospering.

If all the tailors unite to make one-half as much clothing as formerly, if all the furniture factory workmen arrange to produce one-half as much furniture, if the artisans in the building trades bring it about that houses are erected at one-half the former speed, measured in man days—if such a thing is done by workers all along the line, the people have so much less prosperity and advancement. It does not matter an iota, considering the thing collectively, what the rates of wages are or the prices or costs of things. The people cannot enjoy things if they are not brought into being.

The practice of unionism has been to multiply the number of jobs and reduce the amount of service performed in a day. The loss must be borne by some one. It cannot be borne by the employer's profit. The workman may think so when excited by the soap box orator, but an analysis of the total paid in wages and salaries, and of the total of actual profits susceptible of diminution without throttling industry, would show such an extreme disproportion that the futility of the ambition would be apparent.

When, however, the proportion of all industry that is dominated by unionism is small, the unions have all the other workers as the field for their exploitation. At the present time the members of unions are about one-tenth of all the workers. If the proportion were reversed the process would not work, and as Judge Gary said in his address there would be industrial decay.

In THE IRON AGE of Feb. 24, 1921, it was pointed out that there are three great monopolies in the United States—the United Mine Workers, the railroad unions and the unions in the building trades. The great bulk of union membership in the United States falls within these three classifications. Disregarding entirely the questions of how much money the men in these lines receive per year and how much money we pay for our coal, our transportation and our buildings, the proportion of the population devoted to the performance of these three classes of service is altogether too high. The service received along these three lines is a smaller percentage of the total service required, that as a people we may be prosperous, than the percentage of workers that derive their incomes from the three classes of employment is of the total number of workers. If we

endeavored to construct an industrial budget, taking up one requisite industry after another and allotting workers to each one on this same scale we should find we had provided incomes for all the workers long before we got to the end of the list of industries. The workers would find they had been allotted incomes, but many kinds of commodities or of service they would be unable to purchase because these would not be available. Instead of being prosperous, in the real sense, the workers would suffer extreme hardships.

Steel Price Relations

Steel prices having been equalized and stabilized—equalized as between the Steel Corporation and the independents, and stabilized in that further changes of consequence are not expected in the near future—comparisons are in order.

Comparisons of steel prices to-day with those of other times can well be made on the basis of merchant steel bars, for investigation shows that bars are typical of steel prices in general. Steel commodities that have shown materially different percentage advances and declines from those of bars are products that have been affected by special conditions.

Bars are now 2.10 cents, which in comparison with the 2.35 cent price in the Industrial Board schedule shows a decline of 11 per cent and compared with the war control price of 2.90 cents shows a decline of 27 per cent. As for comparisons with a "pre-war average," an interesting point is that it makes little difference what sort of a period is taken. If one takes the ten years, 1904 to 1913 inclusive, he finds an average of 1.40 cents. If he takes only five years, 1909 to 1913, his average drops to 1.33 cents; while if he takes only 1913 his average goes up to 1.38 cents if forward deliveries are taken, or to 1.55 cents if prompt deliveries only are considered. One cannot go far wrong, then, in taking 1.40 cents as a very fair pre-war standard, and from that price the present 2.10 cents is an advance of precisely 50 per cent.

Similar comparisons with many of the other steel products would give about the same showing, a 50 per cent advance over the pre-war standard. A few commodities would show a greater advance, for some special reason. Thus sheets show a greater percentage advance, fairly attributable to the large amount of labor involved in their production. Hoops and bands show an advance of about 70 per cent.

As pointed out in these columns last week, commodity prices in general show wide variations in the relation between present and pre-war prices. All the non-ferrous metals are below their pre-war prices, while lumber, brick and cement are at double to triple price. It would be idle, therefore, to compare so basic a commodity as steel with any individual commodity as a standard, or even to make comparisons with groups of commodities. Nor would it be altogether conclusive to compare present steel prices with the present cost of production. In the economic readjustment through which the country is passing there is much in the suggestion that selling prices are going to dictate costs. It is easy to say a given commodity "cannot" be made to sell at such and such a price, but the statement does not cause people to buy. In such a case time would have to tell whether the buyer would modify his views or the seller would modify his costs.

Steel bars at 2.10 cents and billets at $37 are substantially in their pre-war relation, for bars have generally sold at just a shade more per net ton than billets have brought per gross ton.

As between billets and their raw materials, pig iron and scrap, however, there is not as close coherence. With billets at $37 and basic pig iron at $23, Valley, the billet price is 60 per cent over the pig iron price, or substantially the same percentage that would be shown by a comparison of pre-war prices. While the agreement is right superficially, it is not logical for two reasons. In the first place, the cost of pig iron is made high by the heavy freights that must be paid in assembling the raw materials at the blast furnace, and to make billets at an integrated works does not involve assembling 60 per cent more material for a ton of billets than is required to make a ton of pig iron. In the second place, the cost of scrap enters into the cost of billets, and heavy melting steel scrap, delivered Pittsburgh or Youngstown, is 10 or 15 per cent below its pre-war average market price.

Alloy Steel Castings Heat-Treated

The properties of some heat-treated alloy steel castings, as published elsewhere in this issue, are striking and suggestive. The tests were made on chrome-molybdenum electric steel castings which had been subjected to special heat treatment and not ordinary annealing. The results show what is possible from special treatment in the case of castings and suggest some further possibilities.

The feature of these results is the extremely high elastic ratio, ranging from over 90 per cent in the first set of tests down to about 66.5 per cent in the last. This change in ratio appears to be, in nearly all cases, a function of the alteration in drawing temperature of about 10 points for each increase of 100 degrees. It is seldom, even in forgings, that an elastic ratio of over 90 per cent with as high a ductility is obtained. In all of the results the tensile strength is high, combined also with excellent reduction of area and satisfactory elongation. It is evident that unusual static results are possible over the fairly wide range of about 300 degrees in temperature. Whether these properties are due to the presence of molybdenum or to the combination of molybdenum with chromium is a question to be determined by further research. The point should not be missed, however, that the manganese content of 0.94 per cent is high and may exert its share of influence.

The results as a whole emphasize anew the importance of heat-treated alloy steel castings and their wide field of service. Not only is there the likely substitution of such a product for certain forgings, but there is a wide field for the improvement of even ordinary steel castings specially treated. The best properties are not brought

out by simple annealing, even when properly done. Still better results are possible by double annealing or such treatment as is indicated in these particular alloy castings. The possibilities both in the case of plain carbon and alloy steel castings are many. The whole subject of alloy castings is worthy of exhaustive research to determine just what distinctive properties are bestowed on steel castings by each alloying element, especially after certain established methods of heat treatment. The particular case here discussed, however, warrants the prediction of surprising results from specially treated steel castings of all grades and of a wide use for electric steel alloy castings so treated.

Scholarship and Success

Some years ago it was not uncommon, partly in jest and partly in earnest, to refer to men leading their classes in college as probable future street-car conductors. This was before the time when conductors earned more money than some professors—before the time when such a situation brought forth on Harvard University grounds a sign inquiring politely, "Is it better to mind the train or to train the mind?" The particular reference was to the strike then existing on the Boston elevated lines—a strike for wages higher than many assistant professors at Harvard were then receiving.

Analyses of a considerable list of distinguished engineers, recently made by the American Association of Collegiate Registrars, tend to disprove the theory back of the opening statement above. It was found, for instance, that of 392 such engineers graduated at 75 technical schools, colleges and universities, more than 46 per cent stood scholastically in the highest fifth of their respective classes. About 28 per cent of the total stood in the second fifth. This means that 74 per cent, or practically three-quarters of the number who had attained distinction in engineering, were recruited from the leading 40 per cent of the total number graduating.

From another point of view the registrars' association examined a list of 730 distinguished engineers and found that practically 80 per cent of the total were college graduates. Less than 5 per cent were men who started in college but did not finish, while some 16 per cent were men of secondary school and practical training, but without the benefits of college education. The arbitrary basis of eminence in the study was taken to be either the holding of office, membership in important committees or service as special representative of one of the four founder engineering societies—civil, mechanical, electrical and mining—in the five years, 1915 to 1919.

The whole study may be said to furnish in a sense an index of the value of a college education as it is provided to-day, and may indicate a decided change from the college education prevalent 40 or 50 years ago, when the uncomplimentary notion as to the ultimate destination of the best student had its vogue. To-day we find embryo engineers graduating without any knowledge whatever of the classics, but with thorough fundamental training not only in the pure sciences of mathematics and physics, but also in the applied sciences going to make up a modern engineering education. The present tendency appears to be along intensely practical lines, to the exclusion of the so-called cultural phases of education. Supplemented, as is frequently the case, by practical work in manufacturing plants, the training in the modern engineering school is presumed to go farther than that of thirty, twenty or even ten years ago in equipping the student for gainful employment. At the same time the lack of cultural elements in the education of the graduate of a technical school is often painfully evident in defective equipment in English, limited power of expression and indications that he has been narrowly rather than broadly disciplined.

One of the surprising movements in the foreign iron and steel trade of the United States and Great Britain as a result of the war has been that in old material. Great Britain has become a heavy importer and the United States the chief exporter. In 1912 and 1913 British imports of scrap iron and steel were only 5300 and 10,800 tons per month respectively. In 1919 the movement was practically stationary at 9400 tons a month, but in 1920 it increased decidedly. Importations of 14,200 tons per month in the first half of last year increased to 68,400 tons per month in the third quarter, and were 48,500 tons per month in the last quarter, making the monthly average for the year 40,366 tons. Thus the British demand for foreign scrap last year was four times that of 1913 and about half of the 1920 imports came from the United States, our exports for last year having been 18,270 tons per month. A partial explanation of this movement is the marked increase in the British basic steel output and the low pig iron production there last year. As the basic and electric processes develop the world over, the consumption of pig iron will decline and that of scrap will increase.

An illustration of the purpose of the present Administration to put "more business in Government" was afforded by a conference held in Washington with Herbert Hoover, Secretary of Commerce, on the evening of April 12 by some sixty editors of technical and business papers. It was the first of a series of meetings likely to be held with Mr. Hoover at monthly intervals. Plans are now in progress looking to making the Department of Commerce of maximum usefulness to industry, and Mr. Hoover is counting on the specialized knowledge of the editors of the business papers to help in evolving methods and programs calculated to achieve this end. What is clear on a mere survey of the department's activities is the need of money. It is hoped that the combined power of the business press, once it is convinced how the department may be of direct use to the country, will be immediately exerted in behalf of appropriations which are not as now practically infinitesimal in comparison with appropriations for the Navy.

CORRESPONDENCE

The New Steel Prices

To the Editor: There is a great deal of speculation on whether or not the recent reduction in steel prices will be considered low enough to start buying on the part of the public.

Without some basis of comparison, they will not be so considered. Perhaps some buyers who may be better judges of conditions than others will make their own basis of comparison, and if in their judgment the prices are low enough they will undoubtedly buy some material, but will necessarily be conservative. In time, if these prices show losses and the manufacturer decides that higher prices must be obtained, there are some that will consider this as satisfactory evidence and will rush into the market and buy to the extent of their ability before the increase takes place.

Much has been said about the necessity of reduction in steel prices before buying would set in, without anything being said or suggested as to what level the new base price would settle at.

It is contended that costs have nothing to do with selling prices and that the selling price is governed solely by the law of supply and demand. We disagree with this statement to the extent that no one can continue to sell below cost. Should there be an over-production of any article or commodity, so that the supply is greater than the demand, competition would force a discontinuance of unprofitable production; and on this basis cost has its influence toward regulating the supply and making it more in conformity with the demand. There is nothing new about this and while all admit that supply and demand have more bearing on the price of an article than anything else, it cannot hold an article on a market which is unprofitable.

Every commodity consists of labor almost in its entirety, if followed from the raw materials in the ground to the finished product in the mills, and it seems that an estimate of a new wage base would be a correct basis to estimate new selling prices of a standard commodity such as steel, coal, coke, etc. Hourly labor, skilled and unskilled, is being paid 75 per cent to 150 per cent above pre-war wages. Common labor averaged approximately 19½c. per hour before the war. It is being paid more than twice that much now and will continue to be paid practically 100 per cent above this pre-war rate unless all signs are wrong. It is fair to assume that the labor unions and labor outside the unions have a different understanding of their value than they had before the war, and even though the present depression forces them down, it is hardly to be expected that they will remain down. We could go on talking on this subject, but as we have nothing new to offer will pass on to the comparison of percentages.

The present steel prices are approximately on an average about 56 per cent above the pre-war levels, whereas wages, and we mean wages of miners, mill men and all hourly labor, are nearly 100 per cent above pre-war levels. So even without consideration of freight rates, it looks as though there would be losses to the steel men selling at the present prices and paying the present wages unless the efficiency of the men has greatly increased. Some commodities, such as copper, are selling even below the pre-war prices, notwithstanding the losses to the owners of such material, because of the large surplus stocks. This condition will undoubtedly continue until this surplus has been used and the product brought more in line with the actual consumption. There are other materials we could name that are selling below cost to-day and which will undoubtedly increase in price rather than decrease, but that is not the object of this letter.

My object in writing is to bring more forcibly to public view through such influential channels as your paper whatever you may develop along these lines. We of course recognize the possibility that wages will settle at pre-war levels and thereby force prices to pre-war levels, but we hardly think it probable. We also realize that the standard of living in Europe has decreased rather than increased. (For this statement we quote as authority Herbert Hoover.) This is likely to bring even keener competition from Europe than existed before the war.

The President, Congress and the Senate evidently anticipate this, as they are favorable to tariffs protecting American industry and placing it in position to compete with foreign material, notwithstanding the cry of those who would flood this country with cheap European goods. Perhaps you will note some signs of these goods arriving by examination of the stocks in department stores, 5 and 10 cent stores and other places where the sign "Made in Germany" is again appearing, along with "Made in Japan"

Our personal observation is that unless there is a drastic reduction in wages everywhere, the present steel prices will not net very substantial earnings to any of the steel companies and it will require a large volume to net any earnings at all. Doubtless some of our big men in the financial world are busy endeavoring to find ways and means to open up trade with Europe and finance the war debt of all the countries, so that business may soon open up. It seems evident to the ordinary man, such as myself, that the war debt, not only of this country but of every country, must be so financed as not to draw too heavily upon this generation. It seems that it would only be good judgment and good business to extend it for an indefinite period, and at least fifty years.

JOHN DILLON,
Treasurer Keokuk Electro-Metals Co.

Chicago, April 16.

To the Editor: So much has been said and written on the subject of the immediate future of the steel business that consumers have been awaiting the recently announced price schedule with unusual interest. Their future business depends fully as much upon the stability of the steel market as does the steel business itself.

If the consumer could only realize that the last schedule published really brought prices down to the lowest possible level and a safe one for the rest of the year little attention would be paid to current pessimistic rumors preparing for a big midsummer slump. The industry as a whole has adjusted itself as far as it can, at least until the present surplus of steel scattered all over the country is used up. How can we possibly expect normal business unless there is an immediate realization of the present schedule as equitable for the year 1921?

Just as soon as a sale is made that is below the present schedule everybody jumps to the conclusion the market has gone to the dogs. You who undertake to keep the country posted on market prices jump at the chance to tell the public that the price has already been shaded. The real facts are never brought out. Very frequently sales are made of material that has been held in stock for a long time. The analysis may be somewhat out of line and the producer offers it at a figure merely to liquidate his inventory. At that moment this new price is published, and the consumer becoming fearful of the shadow crawls into his hole until winter is over. He persists in assuring us he too can buy at prices of his own making.

This process cannot be eliminated but it can be reduced. We all realize this is a buyer's market, but is the buyer growing fat on his price reduction propaganda? We claim not. He will realize it, too. But will he wait until we are in the midst of the worst slump we have yet seen—probably—unless we unite to stop it? During the war every industry pledged loyalty to our Government and gave it 100 per cent. Why not encourage industry by pledging that we will continue the present schedule for the remainder of the year and dispense with current reports which tend to disturb business and postpone more indefinitely the date of normal production, full dinner pails and a prosperous United States of America?

H. H. PLEASANCE.
United Alloy Steel Corporation.

Canton, Ohio, April 16.

Hoover Resigns as Engineers' Head

Urges Reorganization of Government Departments at Philadelphia Dinner—Report of Committee on Elimination of Waste

HERBERT HOOVER has resigned as president of American Engineering Council of the Federated American Engineering Societies. His resignation was submitted and accepted as the closing action of the sessions of the council held April 16 at the Engineers' Club in Philadelphia. He gave as his reason the fact that American Engineering Council by its constitution was necessarily engaged in furthering national activities which involve legislation and that as a member of the executive branch of the Government he could not consistently direct such activity as an officer of American Engineering Council.

Committees Report Progress of Work

One of the most important matters before the council was the report of the committee on elimination of waste in industry. The committee has been conducting an assay of waste in principal industries for more than three months under the direction of L. W. Wallace. The first reports will be ready in June. They are being put into final form at the permanent offices of the council in Washington, 719 Fifteenth Street. E. E. Hunt, who has been on Mr. Hoover's staff and who has been identified with the committee since its formation, has been retained to direct the work of that committee until its completion.

The report of Executive Secretary Wallace gave the results of a special study of the employment service made by Mark M. Jones. Plans for broadening the scope of the service were recommended and adopted. In submitting the report of the patents committee, headed by Edwin J. Prindle, Mr. Wallace noted the favorable attitude of members of Congress toward pending patent legislation sponsored by the council.

Dealing with the licensing and registration of engineers, Mr. Wallace's report noted that a number of states have bills before their legislatures on licensing. "We have had representatives attend hearings on such bills in several states," he said. "We have emphasized the position of the council that we do not believe such legislation is necessary, but where it is to become a fact we are interested in seeing that the legislation passed is of such character as to be beneficial both to the public and to the engineering profession."

Publicity Work Progressing

Splendid progress was reported in publicity work, now in charge of James T. Grady, director of the department of public information, Columbia University. Other matters discussed were: Petitions of the council for the appointment of an engineer as assistant secretary of war, in which favorable action was not obtained, and for an engineer on the Interstate Commerce Commission, which is still under consideration.

The report of the Public Affairs Committee was adopted, recommending continuance of the public works campaign, to promote which the organization of the National Public Works organization will be continued. The Committee on New York State Government Reorganization reported striking progress. An elaborate report has been submitted to Governor Miller and the Judiciary Committees of both houses of the legislature presenting the engineering point of view as to the making over of the State government. This report has been widely noticed in the press and is having substantial influence on the question of remodeling the State administrative systems.

Mr. Wallace also recorded requests for support from the American Engineering Standards Committee in securing legislation to obtain: Official co-operation by the Government departments; payment by the Government of its own quota of expenses; official recognition of approved specifications in Government purchases; Government publications of translations of approved specifications for the promotion of foreign trade.

Three new member societies have joined the federation since the last meeting. They are the Boston Society of Civil Engineers and the Engineering Societies of Milwaukee and of Duluth. The next meeting of the council will be held in St. Louis, June 3.

Dinner in Honor of Mr. Hoover

Picturing Government reorganization as a vital national need, and outlining a broadened sphere of activity for the Department of Commerce, Herbert Hoover was the central figure at the dinner arranged in his honor by the Engineers' Club of Philadelphia. Few assemblages of professional or technical men have surpassed this dinner gathering in patriotic fervor, in the expression of engineering and national ideals and in the warmth of devotion displayed toward Mr. Hoover, who was characterized by every speaker, non-engineer as well as engineer, as the ideal American. Mr. Hoover's address was characteristic of his eminence as engineer, statesman, citizen, and servant of mankind. His last act as president of the Federated American Engineering Societies was an appeal to the engineers of the nation to join the federation.

Honorary Membership in Engineers' Club

Mr. Hoover began his address in response to a highly eulogistic speech by Guilliaem Aertsen,* president of the Engineers' Club of Philadelphia, presenting Mr. Hoover with a certificate of honorary membership in the club. The certificate, which, Mr. Hoover said, he would keep with Mrs. Hoover as a priceless heirloom, read:

"The Engineers' Club of Philadelphia by unanimous vote of its directors, in council, the eleventh day of November, 1919, desiring to express its fullest appreciation of the eminence attained by him in the field of engineering, and his great service to humanity, hereby confers upon Herbert Hoover honorary membership, with life tenure of all the rights and privileges thereto belonging."

The Speakers and Their Subjects

More than 600 attended the dinner, which was held at the Bellevue-Stratford Hotel. Many of the leading citizens of Philadelphia were present as well as members of American Engineering Council. Mr. Aertsen presided and the other speakers included Dean Dexter S. Kimball, Cornell University, whose subject was "The Federated American Engineering Societies" and who stressed the importance of the work of the engineer in the advancement of our complex modern civilization; George Wharton Pepper, Col. William A. Glasgow and John C. Trautwine, Jr., all of Philadelphia. Mr. Pepper, foremost lawyer and publicist, made a brilliant speech in which he asserted that Mr. Hoover was more than engineer and as such he was an example for the engineering profession. Mr. Pepper, whose remarks concluded the speechmaking, appealed for a broader engineering training and greater participation by the engineer in the affairs of state. Mr. Trautwine's subject was "The Engineers of Philadelphia." Col. Glasgow, close friend and fellow-worker of Mr. Hoover in relief work abroad, paid a glowing tribute to Hoover the Man, saying that when a child was starving nationality did not count. Love of country and fidelity to its institutions was urged by every speaker, all of whom said that the engineer was becoming one of the most powerful agencies of the State, socially, economically and politically.

Mr. Hoover's address, perhaps the most striking he

*Midvale Steel Co.

has delivered since he entered the Cabinet, was in part as follows:

Organized engineers have for many years recognized the necessity for reorganization of the Federal Government, whose inadequacy, wastefulness and inefficiency, evident enough under pre-war conditions, were intensified during the war, at the cost of millions. One sweeping and fundamental necessity stands out above all others, and that is that the administrative units of the Government must be re-grouped so as to give each of the great departments more nearly a single purpose.

The hodge-podge of aims in certain administrative branches is scarcely believable when we consider our national pride and skill in organization. Such functions as public domain, public works, assistance to veterans, public health functions, aids to navigation, to industry, to trade, purchasing of major supplies, are each and every one scattered over from four to eight departments, most of which are devoted to some other major purpose.

Other reasons besides economy render reorganization imperative. The changed economic situation of the world demands that the functions of the Government in aid to commerce and industry be given more concentration and wider scope.

Striking Example of Overlapping Authority

Aid to navigation is not a principal function of our Government, but it must be a sore trial to the hardy mariner. He must obtain his domestic charts from the Department of Commerce, his foreign charts from the Navy Department, and his nautical almanac from the Naval Observatory—and he will in some circumstances get sailing directions from the Army. In a fog he may get radio signals from both the Navy and Commerce, and listen to fog horns and look for lights and buoys provided him by Commerce; if he sinks, his life is saved by the Treasury. He will anchor at the direction of the Army, which relies upon the Treasury to enforce its will. His boilers and lifeboats are inspected by the Department of Commerce; his crew is certificated by one bureau in Commerce, signed off in the presence of another, and inspected at sailing by the Treasury, and on arrival by the Department of Labor.

The moral of all this is that economy to the Government and to the mariner could be made by placing most of these functions under one head. Congress would know what it spends in aid of navigation and the Government could develop definite policies in giving proper assistance. And this would remove from the hardy mariner's mind his well founded contempt for the Government as a business organization.

Economic changes in the world, growing out of the war, and their reflex upon our trade and industry make it vital, if we are to maintain our standards of living against increasing ferocity of competition, that we shall concentrate and enlarge our national effort in the aid, protection, stimulation and perfection of our industrial and commercial life. There can be no real Department of Commerce or commercial policies to these broad purposes so long as the instrumentalities of the Government bearing on these questions lie in half a dozen departments.

What Business Requires of the Government

We want no paternalism in Government. We do needs aids to business in a collective sense. In a department we do not want either to engage in business or to regulate business.

But we do need a department that can give prompt and accurate diagnosis from both a foreign and domestic point of view of economic events, of economic tendencies, of economic ills; that can promptly and accurately survey economic opportunity, economic discrimination and opposition; that can give scientific advice and assistance and stability to industry in furnishing it with prompt and accurate data upon production, supplies and consumption; that can co-operate with it in finding standards and simplifications; that can by broad study promote national conservation in industry and the elimination of waste; that can study and ventilate the commercial side of our power possibilities; that can study and advise national policies in development of rail, water, and overseas transportation; that in fact covers, so far as Government functions can cover, the broad commercial problems of trade, industry and transportation.

Warning Sounded on Coal Buying

WASHINGTON, April 19.—With coal production down to its lowest point since April, 1914, and the fear that unless a movement to meet needs for industrial and domestic uses is begun at once there will be a recurrence of a shortage through a lack of cars next fall and winter, interest is shown in a pamphlet issued by the National Coal Association dealing with this subject.

It points out that, "Far-sighted co-operation is needed on the part of the consumer—the large industrial user as well as the householder—in arranging for his supply of soft coal in the off-season, the early spring and summer months."

It is expected that the Geological Survey will have completed within the next two weeks its survey, begun late in March, to determine the amount of stocks on hand as of April 1 to find whether consumers are unwisely using their stocks as they did in 1919 and postponing buying, or whether consumption is falling off. Unquestionably, it has been stated, consumption has fallen off greatly owing to the industrial situation, but it is being urged that stocks should now be laid in and idle cars pressed into service in order to avoid a scarcity of coal this fall and winter through a lack of rolling stock. In this connection interest has been shown in the proposal made from time to time for the establishment of "seasonal" coal freight rates, fixing lower charges during the spring and summer than the fall and winter months.

Ordnance Division of Mechanical Engineers

The ordnance division of the American Society of Mechanical Engineers will participate in an excursion to Rock Island arsenal with the Army Ordnance Association on May 27 and 28, the two days following the A. S. M. E. spring meeting in Chicago. The excursion is limited to members of the two organizations who are citizens of the United States not engaged in the manufacture of munitions for foreign governments.

The morning of May 27 will be devoted to an inspection of the manufacturing facilities and the afternoon will be given over to a program of interesting addresses. Col. C. L'H. Ruggles will speak on the subject of "Preparedness in Munitions."

British Iron and Steel Output in March

LONDON, ENGLAND, April 14 (*By Cable*).

Production of pig iron in Great Britain in March amounted to 385,500 gross tons and that of steel ingots and castings was 357,600 tons, compared with 463,600 of pig iron and 483,500 tons of steel in February and with 642,100 tons of pig iron and 493,400 tons of steel in January. The March figures also compare with a monthly output in 1920 of 667,325 tons of pig iron and 754,733 tons of steel, the decline being over 50 per cent.

The large increase in the number of French iron foundries since 1914 partly accounts for the present slump in the trade. There are now more than 1200, whereas formerly there were between 400 and 500, says the London *Ironmonger*. The present situation is aggravated by the fact that most of the firms whose plants were destroyed by the Germans have re-established their organizations and in addition there are the foundries of Alsace-Lorraine which are now seeking employment from French instead of, as formerly, German sources.

Col. A. E. White, national president of the American Society for Steel Treating, was the speaker at the regular monthly meeting of the Pittsburgh chapter of that organization, at Hotel Chatham, Pittsburgh, Tuesday evening, April 19. He presented an illustrated paper on "Alloy Steel, Its Rise and Secrets."

Iron and Steel Markets

BUYING STILL LIMITED

Considerable Business at Former Low Prices

Market Turns on Freight Rate Reductions—Japan Buying Sheets and Copper

The chief effect of the coming together of independent and Steel Corporation prices by the raising of the former and the lowering of the latter was the closing of business by the independent companies on which they had made quotations below the new level.

Thus the bulk of the new orders of the past week has gone to the independents, but at the same time the Steel Corporation has been helped by the reinstatement of business which had gone off its books while it was maintaining Industrial Board prices.

There is no indication that consumers will change their policy of limited buying. Generally they count on further revisions of prices as the result of the expected reduction in freight rates. In addition, the Steel Corporation's policy in respect to wages is admittedly a factor in the determination of future prices.

Published predictions of larger building operations because of the Steel Corporation's reduction of $5 in structural shapes are received with reserve by fabricators. The cut in steel is of small moment in comparison with the high labor scales in all building trades.

In the Pittsburgh district a recovery of 10 per cent is noted from the extreme low point of operations by the leading producer, but the Steel Corporation percentage in some other districts is lower this week. In the Chicago district the Steel Corporation has about one-third of its mill capacity active, while the average of independent companies there is above 40 per cent.

Plate mills buying slabs find the spread between $38 slabs, gross ton, and $44 plates, net ton, rather narrow. The $3 reduction on Steel Corporation sheet bars to $39 likewise narrows the margin of non-integrated sheet mills.

An 8000-ton sheet contract for Japan has been divided between Youngstown and Chicago district mills on the basis of the new sheet schedule. Effective April 14 the American Sheet & Tin Plate Co. adopted base prices of 3.10c. on blue annealed, 4c. on black and 5c. on galvanized, all applicable to unshipped as well as new orders. Independent makers had previously asked 5.10c. for galvanized, but promptly met the Steel Corporation price. Apart from the automobile trade, buying of sheets has been light.

The new wire schedule represents a reduction by the Steel Corporation from 3.25c. to 3c. on annealed fence wire, but no change in its $3.25 price on wire nails. Some independent producers had sold plain wire at 2.85c. and nails at $3.

Considerable reductions have been made by the Steel Corporation in track fastenings. Demand has been held back lately by price uncertainties. The Pennsylvania Railroad is inquiring for 7500 kegs of spikes, 100,000 to 150,000 heat treated bolts and 150,000 to 450,000 tie plates (900 to 2700 tons).

Buying of a fair tonnage of foundry and gray forge by cast-iron pipe and other interests in the East, and an inquiry for 10,000 tons of basic by a Canton, Ohio, company have been the leading features of the pig iron market. An effort to advance basic $2, to $25 Valley, has been made, but the bidding on the Canton inquiry has indicated that the market is little, if any, above the recent quotation of $23. The Southern foundry market is weak.

Wage reductions in foundries on May 1 and consequent strikes are a further factor of weakness in the foundry iron market, particularly in Central Western and Chicago districts.

No fixed prices for steel obtain in export trade. Little is offered to test prices, but the heavy products appear still to be obtainable around 2c., Pittsburgh basis. Competition in world markets is severe, with steel bars obtainable in Europe at an equivalent of 1.35c., Pittsburgh. A Cleveland, Ohio, inquiry is for 1500 tons of plates, shapes and bars for a new blast furnace to be built in India.

Signs are that Germany, with a 50 per cent duty on exports, is finding it difficult to compete with France and Lorraine and fears that an improvement of the mark would be disastrous. How long bonuses and rebates from the German Government can be kept up as an offset to high wages, costs and taxation is a question.

Manganese ore is down to 25c. to 30c. per unit, seaboard, in contrast with as high as $1 in 1920 and with 65c. on contract shipments now reaching American consumers.

Protests are going to Washington from independent steel producers against a high duty on ferromanganese, report having it that $22.40 per gross ton had been favorably considered. Some of the protests urge that ferromanganese remain on the free list and that antidumping provision be relied on to prevent unfair competition.

Japan is again active in the copper market, having purchased 1250 to 1500 net tons of electrolytic in the past week. Japanese inquiries for 1500 tons additional are pending.

Pittsburgh

PITTSBURGH, April 19.

A Valley steel maker is reported to have taken a substantial tonnage of sheet bars at the stabilized price and a Japanese order amounting to 8000 tons of sheets also has been placed at the new base. Generally, however, the new prices do not rest very substantially upon sales. It seems that it was the quite general policy of independent companies to notify their customers of the impending revision and to permit them to enter orders for more than they otherwise might have bought at the old schedules. Until this low priced material has passed into consumption, at least in part, buyers are not inclined to rush in at the new quotations. A hand to mouth policy on the part of buyers is encouraged not only by the price increases made by the independents but also by the failure of the Steel Corporation to accompany its reductions by a revision downward of wages. Buyers incline to the belief that if the corpora-

A Comparison of Prices

Advances Over the Previous Week in Heavy Type, Declines in Italics

At date, one week, one month, and one year previous

For Early Delivery

Pig Iron, Per Gross Ton:	Apr. 19, 1921	Apr. 12, 1921	Mar. 22, 1921	Apr. 20, 1920
No. 2X, Philadelphia‡	$26.26	$26.26	$27.26	$47.05
No. 2, Valley furnace†	*24.50*	25.00	25.00	43.00
No. 2, Southern, Cin'ti†	27.50	27.50	29.50	43.60
No. 2, Birmingham, Ala.†	23.00	23.00	25.00	40.00
No. 2 foundry, Chicago*	24.00	24.00	25.00	43.00
Basic, del'd, eastern Pa.	25.00	25.00	25.00	44.80
Basic, Valley furnace	23.00	23.00	23.00	43.00
Bessemer, Pittsburgh	26.96	26.96	26.96	43.90
Malleable, Chicago*	24.00	24.00	25.50	43.50
Malleable, Valley	25.00	25.00	25.00	43.00
Gray forge, Pittsburgh	*25.46*	25.96	25.96	42.40
L. S. charcoal, Chicago	38.50	38.50	38.50	57.50
Ferromanganese, del'v'd	90.00	90.00	90.00	225.00
Rails, Billets, etc., Per Gross Ton:				
Bess. rails, heavy, at mill.	$45.00	$45.00	$45.00	$55.00
O.-h. rails, heavy, at mill.	47.00	47.00	47.00	57.00
Bess. billets, Pittsburgh	*37.00*	38.00	38.50	60.00
O.-h. billets, Pittsburgh	*37.00*	38.00	38.50	60.00
O.-h. sheet bars, P'gh.	**39.00**	38.00	38.50	80.00
Forging billets, base, P'gh.	**42.00**	41.00	43.50	80.00
O.-h. billets, Phila.	*42.74*	44.24	44.24	64.10
Wire rods, Pittsburgh	48.00	48.00	52.00	70.00
Finished Iron and Steel,				
Per Lb. to Large Buyers:	Cents	Cents	Cents	Cents
Iron bars, Philadelphia	2.35	2.35	2.45	4.25
Iron bars, Chicago	2.38	2.38	2.60	3.75
Steel bars, Pittsburgh	**2.10**	2.00	2.00	3.75
Steel bars, New York	**2.48**	2.38	2.38	4.02
Tank plates, Pittsburgh	**2.20**	2.00	2.00	3.75
Tank plates, New York	**2.58**	2.38	2.38	4.02
Beams, etc., Pittsburgh	**2.20**	2.00	2.10	3.25
Beams, etc., New York	**2.58**	2.38	2.48	3.52
Skelp, grooved steel, P'gh.	**2.20**	2.10	2.35	2.75
Skelp, sheared steel, P'gh.	*2.20*	2.45	2.50	3.00
Steel hoops, Pittsburgh	2.75	2.75	2.80	5.00

Sheets, Nails and Wire,	Apr. 19, 1921	Apr. 12, 1921	Mar. 22, 1921	Apr. 20, 1920
Per Lb. to Large Buyers:	Cents	Cents	Cents	Cents
Sheets, black, No. 28, P'gh.	**4.00**	3.75	3.85	5.50
Sheets, galv., No. 28, P'gh.	**5.00**	4.75	5.00	7.00
Sheets, blue an'l'd, 9 & 10.	**3.10**	3.00	3.00	4.50
Wire nails, Pittsburgh	**3.25**	3.00	3.00	4.00
Plain wire, P'gh	3.00	3.00	3.00	3.50
Barbed wire, galv., P'gh.	**4.00**	3.85	3.85	4.45
Tin plate, 100-lb. box, P'gh.	$6.25	$6.25	$7.00	$7.00
Old Material, Per Gross Ton:				
Carwheels, Chicago	$14.00	$14.00	$14.50	$37.00
Carwheels, Philadelphia	18.00	18.00	18.00	40.00
Heavy steel scrap, P'gh.	12.50	12.50	14.00	25.00
Heavy steel scrap, Phila.	*11.00*	11.50	13.00	24.00
Heavy steel scrap, Ch'go.	11.00	11.00	12.00	23.50
No. 1 cast, Pittsburgh	18.00	18.00	21.00	32.00
No. 1 cast, Philadelphia	18.00	18.00	19.00	38.00
No. 1 cast, Ch'go (net ton)	**13.50**	13.00	14.00	37.00
No. 1 RR. wrot, Phila.	17.00	17.00	17.00	35.00
No. 1 RR. wrot, Ch'go (net)	10.00	10.00	11.00	27.00
Coke, Connellsville,				
Per Net Ton at Oven:				
Furnace coke, prompt	$3.50	$3.50	$4.25	$11.00
Furnace coke, future	4.00	4.00	5.75	11.00
Foundry coke, prompt	*4.50*	5.00	5.50	11.00
Foundry coke, future	*5.00*	5.50	6.00	11.00
Metals,				
Per Lb. to Large Buyers:	Cents	Cents	Cents	Cents
Lake copper, New York	12.75	12.75	12.12½	19.25
Electrolytic copper, N. Y.	12.50	12.50	11.87½	19.00
Zinc, St. Louis	4.65	4.65	4.70	8.15
Zinc, New York	5.15	5.15	5.20	8.50
Lead, St. Louis	4.25	4.25	4.00	8.50
Lead, New York	4.25	4.25	4.00	8.85
Tin, New York	**31.00**	30.00	28.50	62.25
Antimony (Asiatic), N. Y.	5.12½	5.12½	5.25	11.00

*The average switching charge for delivery to foundries in the Chicago district is 70c. per ton.
†Silicon, 1.75 to 2.25. ‡Silicon, 2.25 to 2.75.

The prices in the above table are for domestic delivery and do not necessarily apply to export business.

tion could cut prices to the extent it has without reducing wages, it will be in a position to cut further when wages are lowered.

The benefits of price stabilization thus far have been rather for the Steel Corporation than the independents, for with the independents and the corporation quoting the same prices, those buyers having orders in with the corporation against which they were deferring specifications now are disposed to give releases. This condition is rather borne out by the fact that independent steel plant operations have gained only slightly over those of the past few weeks, while there has been a recovery of at least 10 per cent from the extreme low point in the ingot output of such an important unit of the corporation as Carnegie Steel Co. Expectation that the corporation will eventually reduce wages is encouraged by the remarks of Judge Gary at the annual meeting of the stockholders yesterday, but thus far the only step in this direction has been in a curtailment of the payroll through the dropping of unnecessary extra help.

Stabilization of prices is practically completed, the only product against which revised quotations have not been made being charcoal iron boiler tubes, and these are expected to be revised downward this week. New prices announced by the corporation apply alike to both unshipped tonnages and new business. This action provides a fresh test of the strength of the contract of the independent sheet makers, under the terms of which buyers are expected to take all tonnages contracted for at the price named in the agreement. Independent makers of wire and wire products have a good sized order book as a result of the fact that they let their customers in fairly heavily before putting the new prices into effect. While the amount of business booked at the new prices admittedly is small, it must be said that the new quotations are being religiously observed by all and the disposition at present is strong to summarily reject offers of business at less than the new schedules.

An effort is being made to restore the old price of $25, Valley furnace, for basic pig iron, but a quotation of $24 by a merchant interested against an inquiry for 10,000 tons from the United Alloy Steel Corporation was rejected on the ground that a lower price had been named. On foundry iron $25, Valley furnace, has become maximum and $24.50 has been accepted against a number of sales.

Pig Iron.—The week has been featured by an effort to restore the price of basic iron to $25, Valley Furnace, on the ground that with the price of billets fixed at $37, or $1.50 below the Industrial Board's schedule, pig iron should not be called upon to bear more than half of the reduction and since the Industrial Board price of basic iron was $25.75, the new price would be $25 flat. However, it is one thing to propose but quite another to get buyers to accept, and it is noted that against the inquiry of the United Alloy Steel Corporation, at least one merchant producer was interested to the point of submitting a cost plus proposition, under the terms of which the buyer would benefit from any reduction in costs below $23.50 per ton, and under any circumstances would not have been obliged to pay more than $24. This offer was declined on the ground that a more favorable quotation has been made. It has been reported that a Valley steel maker who accepted business in basic iron at $23, has withdrawn this quotation and now is quoting $25. As a matter of fact, the company referred to never had a public quotation on pig iron and what it might do with an attractive order is purely a matter of conjecture. The real basis of steel making iron will be determined only when there is some business upon which to determine it. The market remains extremely inactive on Bessemer iron and the

price is nominal. One merchant interest which recently was disinclined to go below $26 on No. 2 foundry in the past week has accepted small tonnages at $25. This establishes that price as a maximum and sales have been made at $24.50, while middle men report having been offered tonnages at $24 flat. The stack of the Weirton Steel Co., Weirton, W. Va., which has been banked for several weeks, will be warmed up during the last week of the month, preparatory to going into blast May 1.

We quote Valley furnace, the freight rate for delivery to the Cleveland or Pittsburgh district being $1.96 per gross ton:

Basic	$23.00 to $25.00
Bessemer	25.00 to 27.00
Gray forge	23.50 to 24.00
No. 2 foundry	24.50 to 25.00
No. 3 foundry	24.00 to 24.50
Malleable	25.00

Ferroalloys.—Recent purchase by the Navy Department of 200 tons of 50 per cent ferrosilicon at $84.25 delivered at the Naval Ordnance Plant, Charleston, W. Va., on a direct purchase from a producer, would seem to remove any basis for a higher quotation. Since the Government is notoriously slow pay, this sale and price would indicate even more favorable terms to other users. Official quotations of producers have not been changed, but the appearance of anything like a real order undoubtedly would develop a price as low, at least, as ruled in the Navy Department business. Business in ferroalloys generally remains almost stagnant and quotations are purely nominal. A good many resale tonnages of 76 to 80 per cent ferromanganese are being offered at $90 delivered, without takers. Makers of spiegeleisen are quoting average 20 per cent material at $33 to $35 furnace, but $30 about represents present price possibility, as more or less resale material is available at that figure and sales in other districts are reported to have taken place at an even lower price. A West Virginia steelmaker who recently inquired for a moderate sized tonnage of 50 per cent ferrosilicon and who has not yet closed is reported to have been offered this material at prices ranging from $85 down to $80 for guaranteed silicon content.

We quote 76 to 80 per cent ferromanganese at $85 to $90 delivered on domestic and $100 c.i.f. Atlantic seaboard, the nominal quotation of English producers. We quote average 20 per cent spiegeleisen at $30 to $35 furnace, 50 per cent ferrosilicon $85 to $95 furnace, freight allowed, for domestic and $90 to $95 delivered for foreign material. Bessemer ferrosilicon is quoted f.o.b. Jackson County and New Straitsville, Ohio, furnaces, as follows: 9 per cent, $44.50; 10 per cent, $48; 11 per cent, $51.30; 12 per cent, $54.60. Silvery iron, 6 per cent, $35; 7 per cent, $36.50; 8 per cent, $38.50; 9 per cent, $40.50; 10 per cent, $43; 11 per cent, $46.30; 12 per cent, $49.50. The present freight rate from Jackson and New Straitsville, Ohio, into the Pittsburgh district is $4.06 per gross ton.

Billets, Sheet Bars and Slabs.—Quotations recently established by the Steel Corporation have been adopted by the independents and single quotations again are the rule on the several forms of steel. The stabilized prices are $37 Pittsburgh or Youngstown, for 4-in. billets; $39 for sheet bars and small billets, $38 for slabs and $42 for forging billets of ordinary carbons. A Valley steel maker is reported to have taken orders for sheet bars aggregating approximately 20,000 tons for delivery over the next two months at the new base of $39, some of this tonnage being for Japanese order for sheets amounting to 8000 tons, which was distributed among several Valley makers and a portion of which went to the Chicago district producers. The new prices on other forms of semi-finished steel do not yet appear to have found much basis in actual sales, and the report is current that a substantial tonnage of sheet bars was placed just prior to the recent adjustment at $35.

We quote 4 x 4-in. soft Bessemer and open-hearth billets at $37; 2 x 2-in. billets, $39; Bessemer and open-hearth sheet bars, $39; slabs, $38; forging billets, ordinary carbons, $42, all f.o.b. Youngstown or Pittsburgh mills.

Wire Rods.—Reduction in the independent price to $48 for the base size of soft rods has been met by the American Steel & Wire Co. Demand is no better than it has been and, like the former quotation, the new one is nominal and untested. Prices are given on page 1074.

Plates.—The stabilized price of 2.20c. now is quoted by all makers and is being strictly adhered to, although up to date it has not found much basis except in such releases as have come to the Steel Corporation on suspended tonnages.

We quote sheared plates of tank quality ¼ in. and heavier at 2.20c., Pittsburgh.

Structural Material.—Fabricating interests report no increase in lettings, but, on the contrary, an even more marked inclination by investors to defer awards. Small orders, few of which run as high as 50 tons, are fairly numerous, but the revision in plain material prices is finding reflection in the prices of fabricated steel and is responsible along with the unsatisfactory labor situation and money market conditions for renewed hesitancy in the placing of important jobs. The new base of 2.20c. on plain material is rigidly adhered to. The McClintic-Marshall Co. has taken 125 tons of girder spans for an ore trestle for the A. M. Byers Co., Girard, Ohio. Prices are given on page 1074.

Iron and Steel Bars.—The new price on soft steel bars is not yet well established by sales because buyers were warned of the impending advance by independents and allowed to cover a good many of their requirements at the old prices. No change is made in iron bars.

We quote steel bars rolled from billets at 2.10c.; reinforcing bars, rolled from billets, 2.10c. base; refined iron bars, 2.75c., in carloads, f.o.b. mill, Pittsburgh.

Wire Products.—All makers had a good run of orders last week as a result of the desire of buyers to escape the advance, but now that the new prices have been generally adopted, distributors and wire goods manufacturers again are inclined to pursue a hand-to-mouth policy in the matter of purchases. Practically all of the independents have a fair sized order book, but it is composed entirely of business for quick shipment and carries the old prices, which, with the exception of plain wire, were $5 to $10 per ton below the stabilized levels. Some independents still are taking business from fence manufacturers at $3.45 for galvanized wire, but the price to jobbers is $3.70. There is still some variation in woven wire fence discounts, some companies quoting 63 per cent off list for carload lots and others 60½ per cent.

We quote wire nails at $3.25 base per keg, Pittsburgh, and bright basic and Bessemer wire at $3 base per 100 lb., Pittsburgh.

Steel Rails.—The stabilized price on light rails is 2.45c., the same base as recommended by the Industrial Board. New demands are few and small.

We quote 25 to 45-lb. sections, rolled from new steel, 2.45c.; rolled from old rails, 2.25c.; standard rails, $45 mill, for Bessemer, and $47 for open-hearth sections.

Nuts, Bolts and Rivets.—A new list of discounts on bolts and nuts, dated April 14, replacing one dated April 6, has been issued. The April 6 list was made up prior to the announcement of higher prices by independent steel manufacturers and naturally made no allowance for that development. The new list revises upward slightly prices of bolts and nuts, but the reduction in rivet prices to $3.50 for large structural and ship rivets and $3.60 for large boiler rivets, and the discount of 60-10-10 per cent off list for small rivets are allowed to stand. The market has been so much disturbed by the frequent price revisions that business has been practically at a standstill. Prices and discounts are given on page 1074.

Spikes.—Although all other steel products based upon the price of bars have been stabilized at single quotations, this is not the case with spikes, on which the various makers have yet to arrive at a fixed quotation. The leading independent maker is quoting large spikes at 3.30c. base and small spikes at 4c. to 4.25c., but these prices find little or no basis in sales and buyers generally are inclined to await some announcement by the Steel Corporation. Prices are given on page 1074.

Chain.—Leading makers have announced a new base of 6.35c. for 1-in. proof coil steel chain. This represents a reduction of $8 per ton from the base adopted in February. The United States Chain & Forging Co., effective April 11, has revised prices on butt, breast and cow chain. Butt chains now are quoted at 40 per cent off list, breast chains 40 per cent off list for single, and 50 per cent off for double. Cow ties are 40-10-10 per cent off list.

Skelp.—Stabilized prices for steel skelp make no distinction between grooved, universal or sheared material, all three being quoted at 2.20c., the same base as on plates. The new price represents a decline of from $5 to $9 per ton from the Industrial Board schedules.

Iron and Steel Pipe.—Effective April 13, the National Tube Co. issued new discount lists substantially reducing prices. The new card on standard pipe regroups some of the sizes, changing the base sizes which formerly were ¾ to 3-in. to 1-in. to 3-in. while separate quotations now are made on ⅛-in. butt-weld and on ¼-in. butt-weld. The old discounts of 50½ per cent off list for black and 24 per cent for galvanized on ⅛-in. butt-weld are retained in the new card. Other sizes of butt-weld pipe have been cut from $4 to $10 per ton for black and $4 to $12 per ton for galvanized, the maximum cut being in the base sizes. Reductions in prices of lap-weld pipe run from $8 to $10 per ton, sizes from 2½ to 6-in. taking the maximum cut. Reduction in extra strong pipe is the same as that in standard pipe while double extra strong pipe is at the same discounts as in the card adopted March 21, 1919. The National Tube Co. now is furnishing without extra charge, butt-weld sizes from ½-in. to 3-in. inclusive, free of welding scale. The new card of the National Tube Co. has been adopted by independent manufacturers, the Mark Mfg. Co. having revised its card, dated April 8, to conform to that of the leading interest. The A. M. Byers Co. and the Reading Iron Co., effective April 13, also have issued new cards reducing prices of standard pipe from $6 to $12 on black, $6 to $14 on galvanized. Like the National Tube Co., these companies are quoting former discounts on double extra strong pipe. Cards on oil country pipe have not yet appeared, but the revision in prices of these goods conforms closely to that on standard pipe. Not much business has been done in the past week, as buyers have been holding off to find out what the new discounts were. Discounts are given on page 1074.

Tin Plate.—Reduction by all makers to a base of $6.25 has not materially stimulated the demand. This cut of $15 a ton from the old level involved a substantial downward revision in cans, and the demand for the latter will determine that for tin plate.

Coke and Coal.—The coke market still is dull and easy. The fact that beehive oven production is down almost to the vanishing point is more than counterbalanced as a market factor by the fact that so few furnaces using Connellsville coke now are in blast. The general asking price against prompt tonnages of furnace coke is still $4, but on sales, $3.50 measures today's possibilities. Foundry coke for spot delivery has been offered at $4.50 per net ton ovens, but most producers still are asking $5 as minimum and some are not willing to go below $5.50. No contracting is going on, but such business probably could be done at $4 to $4.25 for furnace and about $1 a ton higher on foundry grade. Coal shows little change.

Warehouse Business.—The Carnegie Steel Co. has adopted the warehouse prices of the Jones & Laughlin Steel Co. of two weeks ago, and, in spite of the revision upward of mill prices of Jones & Laughlin, the Carnegie company clings to the reduced warehouse prices, and for the time being the old warehouse differentials which, in the case of bars and shapes, was $15 per ton, are obsolete. The differential now is a matter of only $13 per ton. All warehouse interests are quoting the Jones & Laughlin list. A move is being made to restore former warehouse differentials, but up to date it has not succeeded.

Hoops and Bands.—The Steel Corporation revision of prices has resulted in a base of 2.75c. for hoops and bands and this quotation has been adopted by independents. Except for a few releases against suspended orders, business is little, if any, better than it has been. The new price establishes a new differential of 65c. per 100-lb. over soft steel bars; the old differential was 70c. per 100-lb.

Hot-rolled and Cold-rolled Strips.—The Steel Corporation has met the independent price of 2.75c. for hot-rolled strips and a base of 5.50c. recently adopted by independent makers for cold-rolled strips also is the quotation now of the American Steel & Wire Co., the corporation subsidiary making this form of steel. The new prices apply alike to unshipped tonnages and new business. Because of the unsettlement attendant upon the price readjustments, the past week has been a rather slow one with most makers of strips, despite the fact that Detroit advices indicate a further expansion in the activities of the automobile industry.

Spikes.—Uncertainty as to prices has kept down the demand. The new prices are given on page 1074.

Sheets.—Effective April 14, the American Sheet & Tin Plate Co. adopted base prices of 3.10c. on blue annealed, 4c. on black and 5c. on galvanized, these prices applying to unshipped as well as new orders, and involving no change in differentials. Independent schedules previously adopted were the same as those of the corporation, except in the case of galvanized sheets, which were placed at 5.10c. Subsequently the independents meet the corporation price on galvanized sheets. It is understood that prior to the price readjustment by independents a substantial tonnage of galvanized was placed at 4c., and that as low as 3.50c. was done on black sheets. Releases continue to come out fairly freely from the automobile industry, but domestic business generally is still of moderate proportion. Valley makers and the Inland Steel Co. share in an export order from Japan, amounting to 8000 tons, carrying the new price. These sheets were 30½ gage, 30 to 36 in. wide and 72 in. long. They really are of the tin mill gage, and are difficult to roll on sheet mills. They will take the sheet base, however. Prices are given on page 1074.

Cold-Finished Steel Bars.—The stabilized price on cold-rolled and cold-drawn steel bars is 3.10c. base, in carloads. This price is based on 2.10c. for hot-rolled bars and reflects a reduction in the differential from $25 per ton to $20 per ton. The new price is being applied to both unshipped orders and new business. Generally business is not much better than it has been, although a fair amount of suspended tonnage is being released by the automobile industry, which now is estimated to be more than 40 per cent engaged.

Old Material.—There has been no material change in general conditions except that between the fact that producers are not pressing much material for sale and expectations of a fuller operation of steel plants as a result of the price stabilization, the market has a somewhat steadier undertone. Consumptive demand is better only to the extent that some of the steel companies, which hitherto have been withholding shipping instructions against material contracted for, now are ordering forward some of their purchases. The American Manganese Mfg. Co. is reported to be in the market for 500 to 1000 tons of mixed borings and turnings and one of the Allegheny Valley sheet makers apparently is beginning to need some machine shop turnings, having offered $8.25 per ton as compared with a former bid of $8 on this material. The Baltimore and Ohio railroad received bids until noon yesterday for 20 carloads and 20,290 gross tons of old material and also for 6500-lbs. of high speed steel scrap.

We quote for delivery to consumers' mills in the Pittsburgh and other districts taking the Pittsburgh freight rate, as follows:

Heavy melting steel, Steubenville, Follansbee, Brackenridge, Monessen, Midland and Pittsburgh	$12.50 to $13.00
No. 1 cast cupola size	18.00 to 19.00
Rerolling rails, Newark and Cambridge, O.; Cumberland, Md.; Huntington, W. Va.; Franklin, Pa., and Pittsburgh	14.00 to 14.50
Compressed sheet steel	10.50 to 11.00
Bundled sheet sides and ends, f.o.b. consumers' mills, Pittsburgh dist.	9.00 to 9.50
Railroad knuckles and couplers	13.50 to 14.00
Railroad coil and leaf springs	13.50 to 14.00
Railroad grate bars	13.00 to 13.50
Low phosphorus melting stock, bloom and billet ends, heavy plates, ¼-in. and heavier	18.50 to 19.00
Railroad malleable	12.50 to 13.00
Iron car axles	32.00 to 33.00
Locomotive axles, steel	28.00 to 29.00
Steel car axles	15.50 to 16.00
Cast iron car wheels	14.50 to 15.00
Rolled steel wheels	13.50 to 14.00
Machine shop turnings	8.00 to 9.00
Sheet bar crop ends at origin	13.50 to 14.00
Heavy steel axle turnings	10.50 to 11.00
Short shoveling turnings	9.50 to 10.00
Heavy breakable cast	14.50 to 15.00
Stove plate	13.00 to 13.50
Cast iron borings	9.00 to 10.00
No. 1 railroad wrought	13.00 to 13.50

Chicago

CHICAGO, April 19.

The initial effect of the stabilization of steel prices was to hasten the closing of business on which lower quotations had been made by the independents. Thus far little tonnage has been closed at the new price level, but there is every indication up to date that the mills are adhering to the quotations. The abrogation of the National agreements by the Railroad Labor Board has revived conjecture as to possible rate reductions by the carriers. In support of the belief that changes will be made, a number of specific rate adjustments to be announced in the near future by an important Eastern line have been cited, but the railroad itself denies that general rate reductions are contemplated. In fact, general rate cuts cannot be made without the sanction of the Interstate Commerce Commission. Formerly the Commerce Commission fixed maximum rates and the railroads were at liberty to charge less if they chose, but under the terms of the transportation act of 1920 the commission's assent is required for rate reductions as well as for advances.

Those close to the railroad situation state that too much importance has been attached to the abrogation of the National agreements. The new working agreements to be worked out by the individual roads and their men will not go into effect until after June 30, and while they will mean a great saving in operating expenses cuts in the wage rates themselves will have to be made before freight rate reductions can be thought of. It is contended in many quarters that the present rates should be reduced because they discourage traffic; yet in the four months prior to the last rate advances when freight traffic was 50 per cent heavier, the roads showed daily returns of $1,444,000 less than their operating expenses and taxes.

Local independent steel mills are operating at a slightly better rate than a week ago. The Inland Steel Co., the Interstate Iron and Steel Co. and the Wisconsin Steel Co. are rolling steel at the rate of about 40 per cent of capacity, while the Mark pipe mills are producing at 45 to 60 per cent of normal. The Illinois Steel Co. now has only eight blast furnaces operating, having banked one temporarily at Gary and is running one-third of its mill capacity. Merchant pig iron production is at the same rate as heretofore, only two local furnaces being active.

Late reports cast some doubt on the placing of 3000 tons of steel, principally plates, for oil storage tanks at Casper, Wyo.

Ferroalloys.—Spiegeleisen has again weakened and is now available at from $38.50 to $39 furnace. Ferrosilicon, 50 per cent, is to be had from a number of makers at $80 delivered, and a few sales have been negotiated on that basis. Ferromanganese is fairly firm at $90 delivered.

We quote 75 to 80 per cent ferromanganese, $90 delivered; 50 per cent ferrosilicon, $80 delivered; spiegeleisen, 18 to 22 per cent, $38.50 to $39 delivered.

Plates.—The announcement of new prices by the independents and the Steel Corporation subsidiaries hastened the closing of considerable business on which lower prices had been quoted. About 3000 tons for oil storage tanks at Casper, Wyo., or one-half of the tonnage originally asked for, has been covered, and numerous orders for small lots ranging from 50 to 100 tons have been ordered by tank fabricators. The steel for 1300 gondola cars ordered by the Santa Fe and for the 2000 box cars and 100 stock cars ordered about two months ago by the Louisville & Nashville, amounting altogether to nearly 24,000 tons of plates, shapes and bars, will be rolled here. There has been little business as yet at the advanced market, but sufficient thus far to indicate that all mills are strictly adhering to the quotations on new inquiries.

The mill quotation is 2.20c., Pittsburgh, the freight to Chicago being 38c. per 100 lb. Jobbers quote 3.23c. for plates out of stock.

Pig Iron.—Current business is confined to carloads and the lowest producer's price quoted is $24, local furnace, for No. 2 foundry. A new lot of resale iron, including 2000 tons of foundry, malleable, charcoal and other grades, has appeared in the market and the seller has not named any prices, but is asking for offers. Melters in this territory are slowly consuming their stocks of iron but progress in this direction has been retarded by unsatisfactory foundry operations. It is to be noted, however, that carload orders are on the increase and this is taken to mean that some users have cleaned up their stocks and are buying their needs on a hand to mouth basis. In Michigan, where the revival in the automobile industry was expected to react favorably on the foundries, conditions are spotty and as yet unsatisfactory. Although new orders for castings are being received, they are balanced in many cases by cancellations. Locally union foundries are preparing to fix lower wages on May 1 and in the event that the molders refuse to accept them, are determined to shut down. A maker of silvery is offering 8, 9 and 10 per cent material at a flat price of $40 delivered Chicago. Standard beehive foundry coke is available at $5.50 f.o.b. Connellsville.

The following quotations are for iron delivered at consumers' yards, except those for Northern foundry, malleable and steel-making irons, including low phosphorus, which are f.o.b. furnace and do not include a switching charge averaging 70c. per ton:

Lake Superior charcoal, averaging sil. 1.50, delivered at Chicago	$38.50
Northern coke, No. 1, sil. 2.25 to 2.75	24.50
Northern coke foundry, No. 2, sil. 1.75 to 2.25	24.00
Northern high phos	24.00
Southern coke, No. 1 foundry and No. 1 soft, sil. 2.75 to 3.25	34.67
Southern coke, No. 2 foundry, sil. 2.25 to 2.75	32.92
Southern foundry, sil. 1.75 to 2.25	31.67
Malleable, not over 2.25 sil	24.00
Basic	24.00
Low phos. Eastern furnace, sil. 1 to 2 per cent. copper free	37.50
Silvery, sil. 8 per cent	40.00

Bars.—What effect the new prices will have on the market is not yet apparent, as the past week has been devoted largely to the closing of holdover inquiries. Some tonnage continues to come from the automobile industry, but it is evident that most car plants are still working against large inventories. Roadbuilding in Iowa and Wisconsin is releasing a moderate amount of business in reinforcing bars, but the number of reinforced concrete buildings being let is disappointing compared with the number of projects which have been figured on. Although little business has thus far been booked at the new price of 2.10c., Pittsburgh, for mild steel bars, it is apparent that all makers are adhering to the quotation. Bar iron business is light and the tendency of mills is to quote this product at $1 a ton below mild steel or 2.43c., Chicago, but in some instances 2.38c. is still being quoted. Most of the current demand for hard steel bars comes from fence post manufacturers.

Mill prices are: Mild steel bars, 2.10c., Pittsburgh, taking a freight of 38c. per 100 lb.; common bar iron, 2.38c. to 2.43c., Chicago; rail carbon, 2.25c. mill or Chicago.

Jobbers quote 3.13c. for steel bars out of warehouse. The warehouse quotation on cold rolled steel bars is 4.63c., an extra of 15c. per 100 lb. applying to orders exceeding 1000 lb. and under 2000 lb. and an extra 35c. on orders up to 1000 lb. Jobbers quote hard and medium deformed steel bars at 2.73c. to 3c. base.

Cast-Iron Pipe.—The demand for this commodity remains flourishing. The action of the Railroad Labor Board in abrogating the National agreements, one of the principal causes of high railroad labor costs, is regarded by some observers as the forerunner of other adjustments which will include rate reductions. There is already some talk of the revival of municipal rates on cast-iron pipe, such as were often granted by the carriers before the war. This would prove a helpful influence, particularly in the Western States, where the freight on pipe now is so high as to inhibit buying. The Detroit jobs on which bids were taken last week have not yet been closed. New work includes:

Flushing, Mich., 175 tons, bids in April 18.
Toledo, 512 tons, April 19.
Marion, Ill., 630 tons, April 25.
Saginaw, Mich., 200 tons, April 19.

Recent lettings include:

Rockford, Ill., 600 tons, to American Cast Iron Pipe Co.
Earlville, Ill., 150 tons, to Lynchburg Foundry Co.
Canton, Ohio, 2000 tons, to United States Cast Iron Pipe & Foundry Co.

We quote per net ton f.o.b. Chicago, ex-war tax as follows: Water pipe, 4-in., $69.10; 6-in. and above, $64.10; class A and gas pipe, $4 extra.

Bolts and Nuts.—The new bolt and nut quotations announced last week were predicated on lower steel bar quotations than those which were named by the leading steel interests. Hence bolt makers have found it necessary to advance their quotations again. Incidentally some business was done at the low prices, one order from a jobber amounting to 1,000,000 bolts. The revised quotations, which will be found on page 1074, are to apply to quantity orders only, as small purchases are to be on a higher basis.

Jobbers quote structural rivets, 4.88c.; boiler rivets, 4.98c.; machine bolts up to ⅞ x 4 in., 50 per cent off; larger sizes, 45 off; carriage bolts up to ⅞ x 6 in., 40 off; larger sizes, 40 off; hot pressed nuts square and hexagon tapped $1.60 off; blank nuts, $1.85 off; coach or lag screws, gimlet points, square heads, 50 and 5 per cent off. Quantity extras are unchanged.

Structural Material.—Fabricators who had received lower quotations on current tonnage quickly closed for the steel when the independents advanced their prices. This action has temporarily swelled the bookings of the mills. Although some new orders have been placed at present prices, they have been small. The existence of a single price on plain material for the first time since the announcement of the Industrial Board prices in March 19, 1919, is expected to give the market stability and to encourage considerable buying which has been delayed because of price uncertainty. There continues to be a fair run of fabricating awards and inquiries, but it is obvious that a genuine building boom has not yet materialized. Recent lettings include:

Four bridges, Missouri, Kansas & Texas Railroad, 600 tons, to Lackawanna Bridge Co.

First National Bank Building, Marion, Ind., 250 tons, to Hetherington & Berner, Indianapolis.

Highway spans for Illinois Highway Commission, Jefferson County, 357 tons, to Northwestern Bridge & Iron Co.

Albert Lea Foundry Co., additions, Albert Lea, Minn., 100 tons, to Federal Bridge & Structural Co.

St. Patrick's School, Iowa City, Iowa, 112 tons, to Iowa Steel & Iron Co., Cedar Rapids, Iowa.

M. K. & T. Railway, four riveted truss spans at Hannibal, Mo., 750 tons to Worden-Allen Co.

Pending inquiries include:

First National—Soo Line building addition, Minneapolis, 800 tons, to be let to general contractor who will sublet.

Texas & Pacific Railroad, bascule bridge, Bayou-Plaque Mine, Louisiana, 700 tons.

Hending & Dausch Paper Co., Fort Madison, Iowa, 600 tons.

High school, Ottumwa, Iowa, 150 tons.

The mill quotation is 2.20c., Pittsburgh, which takes a freight rate of 38c. per 100 lb. for Chicago delivery. Jobbers quote 3.23c. for materials out of warehouse.

Wire Products.—On the main wire commodities, such as plain wire, wire nails and galvanized wire, the prices of the independents and the leading interest are now uniform. Although some buyers, particularly jobbers, whose stocks in many instances are known to be low, are expected to release orders with the disappearance of price uncertainty, current business is light. For mill prices, see finished iron and steel, f.o.b. Pittsburgh, page 1074.

Rails and Track Supplies.—On rails and track supplies the leading interest failed to take action when it reduced prices on other products. The current demand for track fastenings is very light. One local producer is now quoting 3.78c., Chicago, on track spikes and 4.73c., Chicago, on track bolts, while tie plates are available at as low as 2.75c., Chicago. The Chicago & Northwestern has bought 200 tons of light rails for one of its coal mines and the low quotation is understood to have been $50.75 per gross ton delivered for re-rolled material.

Standard Bessemer rails, $45; open-hearth rails, $47; light rails rolled from new steel, 2.45c. to 2.50c. f.o.b. makers' mills.

Standard railroad spikes, 3.30c. Pittsburgh. Track bolts with square nuts, 4.50c., Pittsburgh. Steel tie plates, 2.75c. to 3c., and steel angle bars, 2.75c., Pittsburgh and Chicago; tie plates, iron, 2.90c. to 3c., f.o.b. makers' mills.

Sheets.—Independents have advanced their prices to the levels to which the leading interest reduced its quotations, namely, 3.10c. base, Pittsburgh, on blue annealed, 4c. on black and 5c. on galvanized. Business in sheets is light, although small tonnages continue to come from the automobile industry, jobbers and from highway contractors. The local independent is operating about half of its sheet capacity.

Mill quotations are 4c. for No. 28 black; 3.10c. for No. 10 blue annealed and 5c. for No. 28 galvanized, these all being Pittsburgh prices, subject to a freight to Chicago of 38c. per 100 lb.

Jobbers quote: Chicago delivery out of stocks, No. 10 blue annealed, 4.13c.; No. 28 black, 5.40c.; No. 28 galvanized, 6.40c.

Old Material.—There is a firmer tone in the market, not because consumers are taking an interest in the market but because dealers are looking forward to better trade. A handful of purchases made by users during the past week may account for the change in feeling, but it is rather early to ascertain definitely whether price advances are justified. Two local steel mills bought several hundred tons of heavy melting steel at from $11.25 to $11.50 per gross ton and a small tonnage of No. 1 busheling was bought at $9.50 per net ton. The terms of these transactions do not indicate that the market has advanced, but it is possible that speculative buying among the dealers may develop higher prices before the close of the week. No railroad lists have appeared.

We quote delivery in consumers' yards, Chicago and vicinity, all freight and transfer charges paid, as follows:

Per Gross Ton	
Iron rails	$17.50 to $18.00
Relaying rails	30.00 to 35.00
Car wheels	14.00 to 14.50
Steel rails, rerolling	12.50 to 13.00
Steel rails, less than 3 ft.	13.00 to 13.50
Heavy melting steel	11.00 to 11.50
Frogs, switches and guards, cut apart	11.00 to 11.50
Shoveling steel	10.50 to 11.00
Low phos. heavy melting steel	13.50 to 14.00
Drop forge flashings	7.50 to 8.00
Hydraulic compressed sheet	9.00 to 9.50
Axle turnings	8.00 to 8.50
Per Net Ton	
Iron angles and splice bars	15.50 to 16.00
Steel angle bars	10.00 to 10.50
Iron arch bars and transoms	14.50 to 15.00
Iron car axles	22.50 to 23.00
Steel car axles	14.00 to 14.50
No. 1 busheling	9.00 to 9.50
No. 2 busheling	7.00 to 7.50
Cut forge	9.50 to 10.00
Pipes and flues	7.00 to 7.50
No. 1 railroad wrought	10.00 to 10.50
No. 2 railroad wrought	9.50 to 10.00
Steel knuckles and couplers	11.00 to 11.50
Coil springs	12.00 to 12.50
No. 1 cast	13.50 to 14.00
Low phos. punchings	11.00 to 11.50
Locomotive tires, smooth	10.00 to 10.50
Machine shop turnings	5.00 to 5.50
Cast borings	6.50 to 7.00
Stove plate	13.00 to 13.50
Grate bars	10.00 to 10.50
Brake shoes	9.50 to 10.00
Railroad malleable	12.00 to 12.50
Agricultural malleable	12.00 to 12.50
Country mixed	8.50 to 9.00

New York

NEW YORK, April 19.

Pig Iron.—Sales during the past week amounted to 9000 to 10,000 tons placed by cast-iron pipe and other buyers. Prices show a wide range. The lowest are considered to be $24, furnace, on No. 2 foundry; $25 on No. 2X, and $26 on No. 1 foundry, but in some cases several dollars higher have been paid. Most of the buying is for prompt delivery, but melters are showing more disposition to buy for delivery as late as July and August, while furnaces are willing to commit themselves at present prices for delivery beyond the very near future. One firm which has been active in past years in taking contracts for tunnel segments estimates that the vehicular tunnel under the Hudson River will require 125,000 to 135,000 tons of pig iron. It is doubtful whether any scrap will be used.

We quote delivered in the New York district as follows, having added to furnace prices $2.52 freight from eastern Pennsylvania, $5.46 from Buffalo and $6.16 from Virginia:

East. Pa. No. 1 fdy., sil. 2.75 to 3.25	$28.52 to $29.52
East. Pa. No. 2X fdy., sil. 2.25 to 2.75	27.52 to 28.52
East. Pa. No. 2 fdy., sil. 1.75 to 2.25	26.52 to 27.52
Buffalo, sil. 1.75 to 2.25	32.46 to 33.46
No. 2 Virginia, sil. 1.75 to 2.25	31.16 to 32.16

Cast-Iron Pipe.—Several small gas and water companies scattered over the country are inquiring for pipe; this sort of demand usually is a forerunner of good, healthy conditions in the pipe business and business generally. The city of Greenfield, Mass., last week awarded the contract for 300 tons of pipe to the Donaldson Iron Co., Emaus, Pa.; the R. D. Wood Co., Phila-

delphia, was low bidder for 250 tons for Newark, N. J.; the United States Cast Iron Pipe & Foundry Co. was low bidder for 200 tons for Revere, Mass. Yonkers, N. Y., opened bids Monday for 300 tons, small sizes. We quote f.o.b. New York as follows: 6-in. and larger, $63.30; 4-in., $73.30; 3-in., $83.30, with $4 additional for Class A and gas pipe.

Warehouse Business.—The recent revision of prices by the independent warehouses, followed by similar action on the part of the leading interest, has not served to stimulate additional business. Quotations on iron and steel bars are now generally at 3.23c. per lb., with structurals and plates at 3.33c. per lb. One warehouse is quoting no differential, maintaining a straight price of 3.23c. per lb. base. Sheets are now quoted by some warehouses as low as 5.15c. per lb. on No. 28 black sheets and 6.25c. per lb. for No. 28 gage galvanized sheets. This quotation is in some cases shaded to 6c. per lb. on orders of 25 bundles or more. Both wrought iron and steel pipe have been revised in accordance with the new prices of the Reading Iron Co. and the National Tube Co., the former having been reduced by warehouses from $10 to $20 per ton and the latter showing a cut of from $8 to $9 per ton. In some instances the warehouse reduction was slightly greater than that of the mill because of lower costs of handling material. The non-ferrous market shows no change. We quote prices on page 1092.

Ferroalloys.—Sales of ferromanganese are confined to small lots for early delivery, for which $90, delivered, is the prevailing price for the American product. The British quotation continues unchanged at $100, seaboard. A subject of considerable interest is the question of a tariff on ferromanganese, but it is not believed that the duty, if any, will be high when the matter is decided. An interesting development is the announcement by the Federal Trade Commission that Rogers, Brown & Co. are found guiltless of any attempt to dump British ferromanganese on the American market, it being stated that the evidence was not sufficient to prove the contention of the plaintiffs. Demand for spiegeleisen is also confined to small lots, for which the quotation is $32 to $36, furnace, depending on the seller. The manganese ore market is extremely quiet, quotations being nominal at 25c. to 30c. per unit, seaboard. Just what a fair offer would bring for 50 per cent ferrosilicon, in view of the sale last week to the Navy Department, is difficult to state, the quotation of leading producers being $90 to $95, delivered, but the sale referred to had been made at $84.25, delivered.

Finished Iron and Steel.—There have been no important developments in the local steel trade following the recent advances by independent mills and the reduction to the same level by the Steel Corporation. Except for the placing of orders on which protection had been given by the independents at the former prices, there has been no buying of consequence. A few small orders have been taken by the various mills at the new prices, but the tonnage in the aggregate is unimportant. The new schedule of prices has not yet been thoroughly tested, but practically all mill representatives say they have positive instructions from their companies to consider no reduction from the present level of prices even on very desirable tonnages. The prices do not apply to export business, which, when done, is nearer to a 2c. steel bar base. Structural steel lettings reported for the week include 1800 tons for a building for the Society for the Prevention of Cruelty to Children, 600 tons for a hotel at Williamsport, Pa., and 500 tons for a power plant for the American Gas & Electric Co. in West Virginia, all to the Bethlehem Steel Bridge Corporation; 500 tons for a garage in New York City to the Hinkle Iron Works, 1800 tons for the Varick Street post office, New York, to the George A. Just Co., and 3500 tons for an office building in Tokio, Japan, to the Hedden Iron Construction Co. There is no new railroad work in sight.

We quote for mill shipments, New York, as follows: Soft steel bars, 2.48c., plates and structural shapes, 2.58c.; bar iron, flats, wider than 6 in., 2.98c., with half extras; light rounds, squares and flats, 3.48c., with full extras, and other sizes, 2.48c., with half extras.

High-Speed Steel.—The market continues inactive, with inquiry light and orders seldom exceeding a few pounds. Producers in most cases are quoting 18 per cent tungsten high-speed steel at $1 per lb., although sales are reported at slightly lower figures.

Old Material.—Several railroads have withdrawn their lists because of the lowness of prices bid for their old material. Brokers are endeavoring to sell material in the vicinity in which it was purchased, so that high freights will not absorb the narrow profits afforded these days. There is a scarcity of No. 1 machinery cast, steel car axles, shafting, stove plate and pipe, though the other grades have accumulated freely because of the few sales to plants. Price tendency is still downward. Many dealers are piling material in yards for what they believe to be the inevitable rise of the market.

Buying prices per gross ton, New York, follow:

Heavy melting steel	$6.50 to $7.50
Rerolling rails	10.00 to 10.50
Relaying rails, nominal	40.00 to 42.50
Steel car axles	12.50 to 13.00
Iron car axles	19.00 to 20.00
No. 1 railroad wrought	10.00 to 11.00
Wrought iron track	7.00 to 7.50
Forge fire	6.00 to 7.00
No. 1 yard wrought, long	8.00 to 9.00
Light iron	2.00 to 3.00
Cast borings (clean)	4.00 to 5.00
Machine-shop turnings	3.00 to 4.00
Mixed borings and turnings	3.00 to 4.00
Iron and steel pipe (1 in. diam., not under 2 ft. long)	7.00 to 8.00
Stove plate	10.00 to 11.00
Locomotive grate bars	9.00 to 10.00
Malleable cast (railroad)	8.50 to 9.00
Old car wheels	11.00 to 12.00

Prices which dealers in New York and Brooklyn are quoting to local foundries, per gross ton, as follows:

No. 1 machinery cast	$17.00 to $18.00
No. 1 heavy cast (columns, building materials, etc.), cupola size	16.00 to 17.00
No. 1 heavy cast, not cupola size	13.00 to 14.00
No. 2 cast (radiators, cast boilers, etc.)	10.00 to 11.00

Rogers, Brown & Co. Exonerated

In the case of the Federal Trade Commission against a number of importers of ferromanganese who were charged with violating the anti-dumping law, the members of the firm of Rogers, Brown & Co. who were included with the defendants have been dismissed. The Federal Trade Commission has issued an order for dismissal on the ground that so far as this firm is concerned the allegations were not sustained.

Cleveland

CLEVELAND, April 19.

Iron Ore.—Some of the blast furnaces having long-time contracts have advised ore firms that they will have sufficient ore to last them over until the shipping season next year, and consequently will need no deliveries on their contracts this year, and these have asked for readjustments of these contracts. These adjustments are being made by mining companies on terms to fit individual cases. Ore sellers are now doubtful whether an ore buying movement will start much before June. Very little ore will be shipped by independent interests before that month. With the exception of one cargo shipped last week by the McKinney Steel Co., no ore has as yet come down the lakes. One firm will load two cargoes within the next few days for a consuming interest, which, however, is in no immediate need of the ore. Independent mining companies have considered further wage reductions for miners, but while they say wages must come down further, they are waiting action by the Steel Corporation on miners' wages before reaching a definite decision. Most independent mining companies sometime ago made a 15 per cent wage reduction. While a wage cut by the Steel Corporation is expected, a rumor that the corporation will make a 25 per cent wage reduction lacks confirmation and it seems to be a mere guess. A reduction in lake vessel rates is expected, but this matter will probably not be taken up before May. Because of the curtailment that is to be made this season in ore shipments, the Pittsburgh Steamship Co., will not place all its boats in commission this season. It is announced that over 25 of its vessels, including its barges and some of its small steamers,

will be held in port. It is also probable that some of the independent shippers will not place their boats in commission.

We quote delivered lower lake ports: Old range Bessemer, $7.45; old range non-Bessemer, $6.70; Mesabi Bessemer, $7.20; Mesabi non-Bessemer, $6.55.

Pig Iron.—The United Alloy Steel Corporation, Canton, is inquiring for 10,000 tons of basic iron for May delivery, but has not yet definitely decided whether it will buy this iron or blow in its furnace. Its surplus stock of iron will be used up shortly. There is some hesitancy about blowing in the furnace because of the uncertainty about the future, but it is probable that were there sufficient assurance that the furnace could be kept in operation, it would be blown in. Generally the market continues very dull, with sales limited to foundry iron in lots of 200 tons and under for prompt shipment. A northern Ohio foundry is inquiring for 500 tons of malleable iron and a western Pennsylvania radiator interest has an inquiry out for 250 tons. There is virtually no change in the price situation. The market on foundry iron is apparently maintained at $25, and a Lake furnace reports small lot sales at slightly higher prices. One Cleveland interest that has held foundry iron at $27 for local delivery has lowered its price to $26, which has been quoted recently by another producer. Shipping orders on contracts show no improvement.

We quote delivered Cleveland as follows, based on the new freight rates, these being a 56c. switching charge for local iron, a $1.96 freight rate from Valley points, a $3.34 rate from Jackson and $6.67 from Birmingham:

Basic	$24.96
Northern No. 2 fdy., sil. 1.75 to 2.25	26.50
Southern fdy., sil. 2.25 to 2.75	32.92
Ohio silvery, sil. 8 per cent	41.86
Standard low phos., Valley furnace	41.50 to 42.00

Finished Iron and Steel.—A somewhat better feeling has developed in the market as a result of the readjustment of prices, with the leading interest and the independent mills on the same basis. The announcement of new prices by the Steel Corporation resulted in the placing of some business in lots of 200 tons and under by consumers who had been holding off for the expected price changes and independent mills have closed some business on which they gave protection before marking their prices up. All independent producers are now quoting the Steel Corporation prices and have taken a little business at these prices. While the new prices have not yet been tested, mills seem disposed to adhere firmly to them. However, there seems to be some uncertainty about semi-finished steel prices. Plate mills claim they cannot operate on a $6 differential between slabs and plate prices, but think they will be able to buy slabs under $38. With the advance on steel bars, rerolling mills have withdrawn the 1.90c. price for hard steel reinforcing bars, but are making no effort to get 2.10c., the present market being 2c. In structural lines the H. K. Ferguson Co. is inquiring for 600 tons of steel for a plant for the Hinde & Dauch Paper Co. at Ft. Madison. Iowa, and there is a 100-ton inquiry for the Glenville Masonic Temple, Cleveland. The Cleveland Railway Co. is inquiring for 500 tons of rails.

Cleveland warehouses quote steel bars and small shapes at 2.99c.; plates, 3.09c.; structural shapes, 3.09c.; No. 9 galvanized wire, 4.45c.; No. 9 annealed wire, 3.75c.; No. 28 black sheets, 4.80c.; No. 28 galvanized, 5.70c.; No. 10 blue annealed, 3.85c. to 4c.; hoops and bands, 3.69c.; shafting, 4.25c.

Sheets.—Little business has developed in sheets since the advance by the independent mills, but mills seem inclined to hold to the new prices and there are no definite reports of shading. Some of the independent mills advanced galvanized sheets to 5.10c., but when the American Sheet & Tin Plate Co. announced its new prices with a 5c. price on galvanized, these mills lowered their quotation on galvanized sheets to the same basis.

Warehouse Business.—Cleveland independent warehouses have made no advance on bars, plates and structural material since the $2 a ton advance was made by the mills. Consequently, based on present mill prices, jobbers are getting a differential of $13 as compared with the previous differential of $15. The Carnegie Steel Co., which has been quoting warehouse prices on the basis of its recent mill prices, has made reductions, using the same differential, so that local warehouses are now on the same price basis. Some of the warehouses have reduced prices on sheets, but say that if the present mill prices hold they will mark sheets up again.

Bolts, Nuts and Rivets.—After reducing prices about 10 per cent, April 6, Cleveland bolt and nut makers marked up prices again on some items last week. This stiffening of prices resulted from the $2 a ton advance on steel bars made by the independent mills. The prices that prevailed before April 6 are restored on machine bolts and on large carriage bolts, but small carriage bolts, lag bolts, plow bolts, stove bolts and hot-pressed, cold-punched and semi-finished nuts are lower than those that prevailed before April 6. Rivet prices remain as recently established.

Old Material.—There is a little better feeling in the scrap market which is attributed to the establishment of new prices by the Steel Corporation. A few consumers are sounding out the market on prices and dealers look for some buying by the mills within the next week or two. There were very few transactions during the week, these being limited to purchases by dealers for yard stocks. No further declines appeared in prices during the week and some of the dealers are inclined to think that prices have reached the bottom.

We quote at shipping point per gross ton, in Cleveland and vicinity, as follows:

Heavy melting steel	$10.75 to 11.00
Steel rails, under 3 ft	13.50 to 14.00
Steel rails, rerolling	14.00 to 15.00
Iron rails	13.00 to 14.00
Iron car axles	20.00 to 21.00
Low phosphorus melting scrap	13.00 to 14.00
Cast borings	7.00 to 7.50
Machine shop turnings	6.00 to 6.50
Mixed borings and short turnings	6.00 to 6.50
Short turnings for blast furnaces	6.00 to 6.50
Compressed steel	8.50 to 9.00
Railroad wrought	12.00 to 12.50
Railroad malleable	12.75 to 13.00
Light bundled sheet stampings	5.00 to 6.00
Steel axle turnings	9.00 to 10.00
No. 1 castings	16.50 to 17.00
No. 1 busheling	7.50 to 8.00
Drop forge flashings over 10 in.	5.50 to 6.00
Drop forge flashings under 10 in.	6.00 to 6.50
Railroad grate bars	14.00 to 14.50
Stove plate	14.00 to 14.50
Cast iron car wheels	14.00 to 14.50
Pipes and valves	6.50 to 7.00

Boston

BOSTON, April 19.

Pig Iron.—The market practically is at a standstill, sales the past week insofar as local brokers are concerned amounting to almost nothing, with no new specific inquiries developing. Inquiries have been made, but usually for the purpose of establishing a new basis for figuring foundry casting costs. Interest centers in a few releases on contracts and further cancellations on a price settlement basis. In the absence of business, prices have no opportunity to change. New England meltings in the aggregate show little, if any, increase. Small foundries, with light overhead charges, are, in a few instances, more active, but on certain classifications of work and at the expense of casting quotations. As low as 2½c. per lb. is accepted for manhole and wellhole castings. The tonnage involved is inconsequential. Delivered pig iron prices follow:

East. Penn., sil. 2.25 to 2.75	$29.06 to $31.06
East. Penn., sil. 1.75 to 2.25	28.06 to 30.06
Buffalo, sil. 2.25 to 2.75	30.46 to 34.71
Buffalo, sil. 1.75 to 2.25	29.46 to 33.46
Virginia, sil. 2.25 to 2.75	32.58 to 35.83
Virginia, sil. 1.75 to 2.25	31.58 to 34.58
Alabama, sil. 2.25 to 2.75	36.91 to 38.41
Alabama, sil. 1.75 to 2.25	35.66 to 37.16

Coke.—The recent reduction in New England product contract foundry coke to $11.41 delivered and in spot to $11.91 delivered has failed to bring out new orders to any extent, the ratio of shipments from ovens showing no marked increase, except, perhaps, on old contracts. Connellsville foundry coke is quoted on this market at $5 to $5.50 ovens, but almost nothing is reported sold.

Warehouse Business.—Prices have been revised upward and downward, mostly the latter. Cold-rolled steel rounds are 15c. per 100 lb. higher and other shapes 40c. Steel hoops are 52c. per 100 lb. lower, open-hearth and crucible spring steel 50c., steel bands 30c. to 40c., soft steel bars, concrete bars and angles and channels 35c., steel flats 22c. to 43c., tire and toe calk steel 25c., plates 55c. to 58c., and refined iron 35c. to 40c. Sheets

also are cheaper. Quotations on zees are $1.57 per 100 lb. lower and those on tees under 3-in., $1.17. Galvanized bars are more active, but unchanged in price. Wire nails are 25c. per keg higher at $4.35 per keg base from store. The market on machine, common carriage and tire bolts is wide open, although most houses will not quote more than 10 per cent under previous prices. The market for nuts and washers is unsettled as a result. Coach screws are all of 10 per cent lower at 50 and 10 per cent discount.

Jobbers now quote: Soft steel bars, $3.18 per 100 lb. base; flats, $4.18 to $4.28; concrete bars, $3.18 to $3.45½; tire steel, $4.25 to $4.75; spring steel, open hearth, $5.50; crucible, $11.50; steel bands, $3.83 to $4.48; steel hoops, $4.38; toe calk steel, $5.25; cold rolled steel, $4.65 to $5.15; structural, $3.18 to $3.28; plates, $3.28 to $3.50; No. 10 blue annealed sheets, $4.53; No. 28 black sheets, $5.85; No. 28 galvanized sheets, $6.85; refined iron, $3.18 to $5; best refined, $5; Wayne iron, $8.50; Norway iron, round, ¼-in. to 2½-in., 8c. per lb. net; other sizes, 10c. base.

Old Material.—Foundries are taking in cast scrap a little more freely, but largely from local yards and usually at prices under those quoted by brokers. The latter offered a New Hampshire foundry 100 tons No. 1 cast at $19 delivered, but purchase was made from a local yard, presumably at less money. A greater Boston melter took 360 tons at $19 to $19.50 delivered, part from a small yard and the rest from a broker. A Providence, R. I., foundry bought two cars strictly No. 1 textile cast at $20 delivered, and a Massachusetts textile machinery maker strictly No. 1 machinery around $19 delivered. The average price asked by brokers on this class of material is $19 to $20 delivered, while small yards have sold at $18 and higher. Pennsylvania mills are not in the market for heavy melting steel, but will take borings at less than $9.50 delivered. One local broker has picked up blast furnace borings and turnings at $9 f.o.b. shipping point, which constitutes a new low record for this movement. Local yard prices follow:

No. 1 heavy melting steel	$6.00 to	$7.00
No. 1 railroad wrought	12.50 to	13.00
No. 1 yard wrought	8.50 to	9.00
Wrought pipe (1 in. in diameter, over 2 ft. long)	7.00 to	7.50
Machine shop turnings	3.00 to	3.50
Cast iron borings, rolling mill	3.00 to	4.00
Cast iron borings, chemical	3.00 to	4.00
Heavy axle turnings	4.50 to	5.00
Blast furnace borings and turnings	3.00 to	3.50
Forged scrap and skeleton	5.50 to	6.00
Street car axles and shafting	15.00 to	16.00
Car wheels	19.00 to	20.00
Machinery cast	19.00 to	20.00
No. 2 cast	16.00 to	17.00
Stove plate	12.50 to	13.50
Railroad malleable	13.00 to	13.50
Rerolling rails	10.00 to	10.50

St. Louis

ST. LOUIS, April 19.

Pig Iron.—The complete absence of any demand here for pig iron makes the establishment of a market impossible and quotations are not available that would bear any relation to an actual transaction. Pig iron could be bought, according to some furnace representatives, considerably below $25 Birmingham if there were any disposition to buy, but none can be found among the foundrymen. The stove concerns are still awaiting the results of the wage conference in session last week at Philadelphia and there is some belief that if any satisfactory agreement at all is reached there will be some activity shortly in that section of the industry. The basic users are not doing anything at all and there are no inquiries in consequence from them. Thus St. Louis as a pig iron market at the present time is absolutely nil. The West Side blast furnace is doing nothing at all, having gone out of blast some time since and the East Side furnace is only providing metal for its allied industry, the Niedringhaus plants.

Coke.—There is absolutely no demand for coke of any character or brand and in consequence no transactions on which to base a quotation, although representatives put best selected 72-hr. Connellsville coke at $6 to $7 according to delivery as a nominal price at present.

Finished Iron and Steel.—In finished products the announced reduction of prices by the Steel Corporation has stimulated some interest according to the mill representatives, but not to the extent of developing any orders as yet. However, the reductions are reported as having brought about a better feeling in the trade which may eventuate in transactions within a reasonable period. The warehouse business is very dull and the prices remain as at last quotation, the reductions here having preceded the mill reductions referred to above.

For stock out of warehouse we quote as follows: Soft steel bars, 3.22½c.; iron bars, 3.22½c.; structural material, 3.32½c. tank plate, 3.32½c.; No. 10 blue annealed sheets, 4.22½c.; No. 28 black sheets, cold rolled, one pass, 5.50c.; No. 28 galvanized sheets, black sheet gage, 6.50c.

Old Material.—The scrap market remains lifeless, with no buying on the part of consumers. So far as new orders go, a few dealers are buying to lay down in their yards against an advance which they seem to believe is coming within a reasonable time, but such purchases are made only at bargain prices. The fact that the National Enameling & Stamping Co. has put two additional furnaces in operation is giving a little better tone to the scrap steel market, but the company is doing no new buying, although it is taking in material on old contracts. No railroad lists have come out since last week and those which were out have been closed at rather low prices.

We quote dealers' prices f.o.b. consumers' works, St. Louis industrial district, as follows:

Per Gross Ton

Iron rails	$13.00 to	$13.50
Steel rails, rerolling	12.50 to	13.00
Steel rails, less than 3 ft	12.50 to	13.00
Relaying rails, standard section, subject to inspection	27.50 to	32.50
Car wheels	12.50 to	13.00
No. 1 railroad heavy melting steel	13.00 to	13.50
Heavy shoveling steel	10.50 to	11.00
Ordinary shoveling steel	10.00 to	10.50
Frogs, switches and guards cut apart	13.00 to	13.50
Ordinary bundled sheet	5.00 to	5.50

Per Net Ton

Heavy axle and tire turnings	6.00 to	6.50
Iron angle bars	10.50 to	11.00
Steel angle bars	10.00 to	10.50
Iron car axles	20.50 to	21.00
Steel car axles	14.00 to	14.50
Wrought arch bars and transoms	14.00 to	14.50
No. 1 railroad wrought	9.50 to	10.00
No. 2 railroad wrought	9.00 to	9.50
Railroad springs	12.00 to	12.50
Steel couplers and knuckles	12.00 to	12.50
Locomotive tires, 42 in. and over, smooth inside	9.00 to	9.50
No. 1 dealers' forge	8.00 to	8.50
Cast iron borings	6.50 to	7.00
No. 1 busheling	11.00 to	11.50
No. 1 boilers, cut to sheets and rings	6.00 to	6.50
No. 1 railroad cast	13.00 to	13.50
Stove plate and light cast	12.00 to	12.50
Railroad malleable	10.00 to	10.50
Agricultural malleable	11.00 to	11.50
Pipes and flues	8.00 to	8.50
Railroad sheet and tank	5.00 to	5.50
Railroad grate bars	7.00 to	7.50
Machine shop turnings	5.00 to	5.50
Country mixed	7.00 to	7.50
Uncut railroad mixed	8.00 to	8.50
Horseshoes	11.00 to	11.50
Railroad brake shoes	8.00 to	8.50

Birmingham

BIRMINGHAM, ALA., April 19.

Pig Iron—The middle of the month found the $25 base for Birmingham iron remaining only for car lots. At the close of last week, there was open bidding of $23 on a lot of 100 tons. The $25 base is fairly well maintained for car lots, which remains the principal business. The leader in the booking of small tonnages reports a total of 1200 tons for the week placed on books, all of which was for prompt delivery. Prompt delivery is universal and applies alike to iron, steel and coke. It is hand to mouth buying, the large interests still holding aloof. It is now plainly indicated that the pipe people are looking for further concessions. Something was expected in that quarter during the past week, but did not mature. The fact that merchant foundry yard stocks did not increase in March was somewhat gratifying when one looks forward. The state of stocks is the only cheering aspect, there appearing no more general disposition to accept the latest low level as the bottom rock than the other levels since the price recession began. The Southern iron melt is not substantially increasing, the resuming soil pipe shops, generally speaking, having some iron

on hand. No foundry seems willing to order a ton more than is needed to fill orders already booked.

We quote per gross ton f.o.b. Birmingham district furnace, as follows:

Foundry, sil. 1.75 to 2.25	$23.00 to $25.00
Basic	22.00 to 24.00
Charcoal	40.00

Finished Materials.—The local steel trade accepted the Steel Corporation's price reduction with distinct satisfaction, believing it would have a tendency to stabilize and encourage jobbers to enter the market, but no immediate buying movement followed. One independent steel concern booked twice as much new business in the first half of April as in the first half of March. The tonnage is not large, but the increase it notable. Gulf States Steel Co. will resume at its blast furnace May 1 and wire drawing departments are at slightly greater capacity.

Cast Iron Pipe.—New price levels had not been announced by the high pressure pipe people at the close of the week, but are expected on the award of large tonnage on which bidding was done last week. Considerable business is confidently believed to be near, but very little came to a head last week. Northern soil pipe makers are competing with Southern makers at the reduced scale, which is about $50. The resuming plants continue to operate, but none is on much over 20 per cent turn.

Old Material.—The scrap market is listless and quotations are without special meaning. Dealers report less buying than at any period in the past five years. They have given up speculation on when the turn will come.

We quote per gross ton f.o.b. Birmingham district yard, as follows:

Steel rails	$13.00 to $13.50
No. 1 heavy steel	12.50 to 13.00
No. 1 cast	18.00 to 19.00
Car wheels	18.00 to 19.00
Tramcar wheels	16.00 to 17.00
No. 1 wrought	15.00 to 16.00
Stove plate	12.00 to 12.50
Cast iron borings	5.00 to 6.00
Machine shop turnings	5.00 to 6.00

Buffalo

BUFFALO, April 19.

Pig Iron.—A national company which uses considerable pig iron has bought about 2900 tons for use in its local plant and 250 tons for use in one of its Pennsylvania plants. All the local furnaces and sales agencies were bidders for the business, which, it is understood, went to a seller outside the district, as did the previous two orders recently placed by this company. Activities of brokers outside the district, in offering resale iron to foundries, is keeping business from furnaces. A company which has maintained a $30 base price reports a number of small sales at this figure and a small lot of resale iron at $28. This company is optimistic after a week's accumulation of inquiry—a matter of 5000 tons being its total inquiry. Continued automobile activity may bring business to pig iron producers. A producer reports one sale for the week, 200 tons of high silicon iron at a base price of $26. A furnace reports activity on old orders and shipments of about 1300 tons on contracts. This company claims to be quoting $27 base, but would adjust the price on a tonnage worth while. Some inquiry from Canadian points is noted. Total inquiry for 1500 tons is reported by this seller.

We quote f.o.b. dealers' asking prices per gross ton Buffalo as follows:

No. 1 foundry, 2.75 to 3.25 sil.	$28.00 to $29.00
No. 2X foundry, 2.25 to 2.75 sil.	26.25 to 27.25
No. 2 plain, 1.75 to 2.25 sil.	25.00 to 27.00
Basic (nominal)	26.00 to 27.00
Malleable (nominal)	27.00 to 28.00
Lake Superior charcoal	38.00

Finished Iron and Steel.—There is a diversity of opinion as to the effect of the new price schedule of the Steel Corporation. Most of the local interests have found a heavier inquiry but no improvement in orders. This is explained by some that sufficient time has not elapsed since the announcement, to bring forth actual business. Most mills do not expect a rush of business. The railroad situation with respect to freight rates will have to be adjusted before business will come, it is claimed. Structural shape business looks better. The new Hotel Statler job is again advertised. This involves about 8000 tons. A company which has been operating a bar mill to run off accumulated orders expects to shut down within the week. Inquiries for small lots in structural shapes continue to reach one company. Greater movement in galvanized sheets is noted. Plate business is quiet.

Coke.—A number of carload sales are reported and a better feeling is evident. Requests for shipment on old contracts feature the week. A good brand is bringing $5.50 per ton in open top cars and $5.75 in box cars. An extra fine grade is bringing $7.25.

Warehouse Business.—Considerable new inquiry developed with the announcement of new prices by the Steel Corporation. It is too early to determine just what business will result. A good seasonal business particularly in structural shapes is reported by one merchant.

We quote warehouse prices f.o.b. Buffalo as follows: Structural shapes, 3.25c.; plates, 3.25c.; plates No. 8 gage, 4.10c.; soft steel bars and shapes, 3.15c.; hoops, 3.85c.; blue annealed sheets, No. 10 gage, 4.15c.; galvanized steel sheets, No. 28 gage, 6.30c.; black sheets, No. 28 gage, 5.30c.; No. 9 gage annealed wire, 4.35c.; cold rolled strip steel, 8.15c.

Old Material.—A local dealer is now offering $10 for heavy melting steel, but has only been able to pick up small tonnages at this figure. Slight activity in stove plate and cast scrap seems to have disappeared. The heavy melting steel market improved with the sale of 2500 tons at $12.50. This was bought by an industry engaged in making railroad equipment.

We quote dealers' asking prices per gross ton, f.o.b. Buffalo, as follows:

Heavy melting steel	$12.00 to $12.50
Hydraulic compressed	9.00 to 9.50
Low phos., 0.04 and under	17.00 to 18.00
No. 1 railroad wrought	13.00 to 14.00
Car wheels	17.00 to 18.00
Railroad malleable	11.50 to 12.50
Machine shop turnings	7.00 to 8.00
Heavy axle turnings	10.00 to 11.00
Clean cast borings	7.00 to 8.00
Locomotive grate bars	11.50 to 12.50
Wrought pipe	9.50 to 10.50
No. 1 busheling	9.50 to 10.50
Stove plate	15.00 to 16.00
Bundled sheet stampings	7.00 to 8.00

Cincinnati

CINCINNATI, April 18.

Pig Iron.—A Columbus, Ohio, melter is in the market for 1000 tons of basic and 100 tons of low phosphorus, delivery to extend over the next five months. With this exception, inquiry is limited to one and two carload lots. There is no disposition on the part of the producers to contract for future deliveries at present prices and several offers to purchase round tonnages at $25, furnace, deliveries to be as required during the remainder of the year, were turned down by a southern Ohio furnace. Some resale iron is still to be had and this is being offered at the equivalent of $24, Northern furnace. Furnace prices remain at $25 for Valley iron and $26 for southern Ohio. In the South, more is heard of the $23 price, but on carload business, constituting the present activity, in this market, this figure is not being generally quoted. There is no doubt that on a firm inquiry for a round tonnage this price can be done. No activity is reported in silvery or malleable. Some sellers profess to feel a more buoyant tone to the market, and in a short time expect the melt to increase materially. One of the reasons for this feeling is found in the fact that some releases of high priced iron are being received. The stack of the Belfont Iron Works at Ironton, now banked, will shortly resume for a run on Bessemer. The nail and wire mills of this company will shortly be in need of steel and when a sufficient tonnage of iron is secured, the furnace will go out of blast.

Based on freight rates of $4.50 from Birmingham and $2.52 from Ironton, we quote f.o.b. Cincinnati:

Southern coke, sil. 1.75 to 2.25 (base)	$27.50 to $29.50
Southern coke, sil. 2.25 to 2.75 (No. 2 soft)	30.75
Ohio silvery, 8 per cent sil.	41.02
Southern Ohio coke, sil. 1.75 to 2.25 (No. 2)	28.52
Basic, Northern	27.52
Malleable	28.52

Coke.—Carload sales for prompt shipment continue as the only activity in the coke market. Connellsville furnace coke has been offered at $3.50. Prices on foundry grades from all fields are unchanged.

Finished Material.—While it is a little too early as yet to see the results of the price revision announced during the past week, the general opinion among the steel trade is that they will have the effect of stabilizing conditions. Some disappointment is apparent among buyers as to the extent of the cut made by the Steel Corporation, as a great majority of them here were of the opinion that the price of bars would be reduced to at least 1.75c. In the earlier part of the week, some small orders were placed at the low prices in effect for the past couple of weeks. This applies more particularly to sheets and in this connection we note a sale of 100 tons of galvanized sheets at 4.60c. Pittsburgh. Some bar business in carload lots has been taken at 2.10c. Pittsburgh, but there seems to be some inclination on the part of buyers to hold off placing tonnages to see what further developments will take place. Some bolt and nut manufacturers have advanced prices on carriage and machine bolts approximately 15 per cent. The City of Dayton, Ohio, recently awarded 500 tons of cast iron pipe to the United States Cast Iron Pipe & Foundry Co. at its bid of $62 per ton. The Ordnance Department at Port Clinton, Ohio, is asking bids for cast iron pipe to replace the wood stave water supply line at the Erie proving grounds. Bids will be closed on May 10. There has been some activity in structural shapes during the week, most of the tonnages being small for school buildings. The Big Four Railroad took bids on 300 tons of bridge work. The Fulton Iron Works, St. Louis, has been awarded several hundred tons for export to Cuba. This is for the plant of the Miranda Sugar Co., the boiler house of which was awarded to the McClintic-Marshall Co. Plant operations will be at practically the same rate as last week. Mills of the Andrews Steel Co. and Newport Rolling Mill Co., will be closed during the week. The Whitaker-Glessner Co. at Portsmouth, has added another open hearth furnace giving it four now in operation. The blast furnace at this plant will be relighted on Monday.

Warehouse Business.—Local warehouses report a noticeable improvement in business. Some fair sized orders are being placed for a general line of steel products. Structural steel is showing the most activity though wire products are in fair demand. The recent announcement of price advances has not as yet effected the prices quoted by warehouses, but a slight advance is expected within the next two or three weeks. Prices are unchanged, local jobbers quoting as follows:

Iron and steel bars, 3.35c. base; hoops and bands, 4.05c. base; shapes, 3.45c. base; plates, 3.45c. base; reinforcing bars, 3.42½c. base; cold rolled rounds, 1⅛ in. and larger, 4.85c.; under 1½ in. and flats, squares and hexagons, 5.35c.; No. 10 blue annealed sheets, 4.35c.; No. 28 black sheets, 5.50c.; No. 28 galvanized sheets, 6c; wire nails, $3.60 per keg base; No. 9 annealed wire, $3.60 per 100 lb.

Old Material.—Little activity is reported in the scrap market. Prices on borings, turnings, locomotive tires and car wheels are 50c. lower, and iron axles have been bought at $3 below previous quotations. The Chesapeake & Ohio and Norfolk & Western railroads have lists out and the Baltimore & Ohio closed a heavy list to-day. The Southern Railway withdrew its better grades on account of the low prices offered.

We quote dealers' buying prices:

	Per Gross Ton	
Bundled sheets	$7.50 to	$8.50
Iron rails	16.50 to	17.50
Relaying rails, 50 lb. and up	30.50 to	31.50
Rerolling steel rails	11.50 to	12.50
Heavy melting steel	10.00 to	11.00
Steel rails for melting	10.50 to	11.50
Car wheels	14.00 to	15.00
	Per Net Ton	
No. 1 railroad wrought	10.00 to	11.00
Cast borings	5.00 to	5.50
Steel turnings	3.50 to	4.00
Railroad cast	13.50 to	14.50
No. 1 machinery	13.50 to	14.50
Burnt scrap	8.00 to	9.00
Iron axles	20.00 to	20.50
Locomotive tires (smooth inside)	10.00 to	11.00
Pipes and flues	7.50 to	8.00

The Interstate Commerce Commission has denied an application of the Soo Line and other carriers for authority to continue rates on pig iron from Gladstone and other Michigan points to Eastern destinations, without observing the long-and-short-haul provision.

Philadelphia

PHILADELPHIA, April 19.

An atmosphere of uncertainty still pervades the steel market, notwithstanding the action of the leading interest and the independent steel companies to stabilize prices on a uniform basis. Uncertainty among buyers as to whether the new prices will hold is undoubtedly a factor in the situation. However, here and there is a note of encouragement. Actual bookings have increased during the past week, and, though a substantial part of the tonnage has been placed at the old prices under protection given for a limited period, there has also been a fair amount of buying at the new prices. Subsidiaries of the Steel Corporation are reported to have received a considerable number of reinstated orders, mostly in the form of releases of suspended contracts. A slight improvement in mill operation among Eastern mills is expected within the week.

Pig Iron.—Sales of pig iron within the past week have shown a slightly increasing demand. A New Jersey cast-iron-pipe manufacturer, who recently purchased 4000 tons of No. 2 plain iron, has bought an additional 4000 tons, divided equally between two eastern Pennsylvania furnaces. The price reported is $26, delivered. A sale of 800 tons of resale No. 2X iron to a plumbing goods manufacturer in Bridgeport, Conn., is reported here to have been made at $25, delivered, the iron coming from another foundry. A numbeer of sales ranging from a carload to a few hundred tons have been made by Eastern furnaces at prices ranging from $24.50 to $26, furnace, for No. 2 plain. One Eastern furnace which has been quoting $24.50 for No. 2 plain has advanced its price 50c. per ton, its new quotations being $25 for No. 2 plain, $25.50 for No. 2X and $26.50 for No. 1X. Another furnace has made a few small sales during the week on the basis of $26, furnace, which is now its minimum. Foundry iron is still available, however, at the $24.50 base. About 100 tons of No. 1X iron has been sold for immediate shipment at $26, delivered. Deducting the differential of $2, as now fixed by some sellers, this would figure back to $24, base. The largest inquiry in the market comes from the Pennsylvania Railroad for 1000 to 1500 tons of foundry iron, 2.50 to 3 per cent silicon, for shipment to its Altoona shops. The Robesonia furnace will be put in blast in about 30 days. Copper-bearing low phosphorus or foundry iron will be made, as the demand may require.

East. Pa. No. 2 plain, 1.75 to 2.25	$25.76 to $26.84
East. Pa. No. 2X, 2.25 to 2.75 sil.	26.26 to 27.84
Virginia No. 2 plain, 1.75 to 2.25 sil.	31.74 to 33.74
Virginia No. 2X, 2.25 to 2.75 sil.	32.99 to 34.99
Basic deliv. Eastern Pa.	25.00
Gray forge	25.26
Standard low phos. (f.o.b. furnace)	38.00
Malleable	29.90
Copper bearing low phos. (f.o.b. furnace)	35.00

Ferroalloys.—The situation is unchanged. There is virtually no demand here for ferromanganese or spiegeleisen and prices are nominal, $85 to $90 for ferromanganese, and $30 to $35 for spiegeleisen. The Sheridan furnace of the Lavino Furnace Co., making ferromanganese, has been blown out for repairs.

Semi-Finished Steel.—Open-hearth rerolling billets are freely available at $37, Pittsburgh, but there is no demand. On forging, $41 to $42, Pittsburgh, is quoted.

Plates.—A slight increase in orders for plates has been noted in the past week, this being due mainly to the desire of prospective purchasers to get their requirements filled at the old prices, on which protection was given for a limited period. One such order for 1000 tons was placed by a Baltimore fabricator of gas tanks, the price reported being 1.85c. or 1.90c., Pittsburgh. Arthur G. McKee & Co., Cleveland, have inquiries for 1500 tons of plates, shapes and bars for a blast furnace to be built for the India Iron & Steel Co., India. The city of Philadelphia will decide shortly on material for a new 60-in. water main, on which bids

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German Iron Trade Under Allied "Sanctions"

New Customs Frontier Divides Important Steel-Producing Territory—Manufacturers Fear Crippling of Their Trade—Stinnes a Power in Styria

(Special Correspondence)

BERLIN, April 4.—The iron trade continues in a state of great concern about the Allies' "sanctions." Some important iron men who have been giving their views in the press take a most serious view of the probable effects; and this applies both to the customs frontier east of the Rhine and to the 50 per cent levy upon German exports to Allied countries. The Allies are meeting the practical difficulty that some 60 customs houses must first be erected, and they do not find any legal warrant for saddling the expense upon Germany. On the other hand, they appear to be in doubt whether the customs duties to be collected will meet the expenses of building the stations; and thus they are in a state of perplexity that is causing delay.

As some of the German manufacturers see the matter the whole plan of running an artificial customs frontier right through the center of a great industrial region, with great works on either side mutually dependent, is so absurd economically that the Allies after all will have to abandon it as impossible of execution. The line as proposed will separate the different establishments of the Stinnes group (Deutsch-Luxemburg, Gelsenkirchen), Thyssen's properties, Rheinische Stahlwerke, Phoenix, Gutehoffnungs-Huette, and others into two parts. Krupp's great blast furnace and steel plant, the Friedrich-Alfred-Huette, lies on the west bank of the Rhine. The movement of material back and forth between the different branches of the same company goes on, of course, on an enormous scale, and the payment of duties between them would probably be an even less serious matter financially than the loss of time at the customs houses. In Duisburg and vicinity, through which the customs frontier is to run, about one-fourth of Germany's steel product before the war was produced; and last year, some 2,000,000 tons of pig iron, or one-third of Germany's entire production, was produced at the 10 big blast furnaces situated there. The possibility is further contemplated that the Allies will collect duties on the iron ores shipped up the Rhine from Rotterdam, which might prove a further diastrous blow to the furnaces west of the line; while those to the east would have to meet increased freight charges upon rail shipments from Rotterdam.

Manufacturers See Trade Crippled

Some views of manufacturers on both sides of the line may be cited here. Solingen, the center of the cutlery trade, is occupied by the English and will therefore be on the Allied side of the customs line. A Solingen firm says that the customs frontier will cause a complete and immediate stoppage of work there; also that further exports to England, in the face of the 50 per cent levy, will be impossible, German home prices for cutlery being already about on the level of the world's markets. A great establishment in the occupied region expresses the opinion that the tariff frontier will work ruinously in the case of most of the works west of it. Apart from the works running on export goods, it continues, the mills of the region have their chief market in unoccupied Germany, where they are in sharp competition with other German mills; and goods manufactured west of the tariff wall could not pay the duty and remain able to compete in unoccupied territory. And the 50 per cent levy "in enemy countries" would render further exporting business impossible.

A great exporter in unoccupied territory said that all business was held back by reason of the 50 per cent levy. The managing director of one of the greatest machine tool shops said that in this trade exporters were demanding that 50 per cent on all contracts be paid when the order is given, and the remaining half upon notification that the goods are ready for shipment; but the negotiation of new business has been most seriously disturbed by the Allies' measures. Another great establishment asserts that exports to Allied countries will absolutely cease upon application of the levy. It further says that if even the German government undertook to remunerate manufacturers for the 50 per cent levied the delay involved in settlement would make business difficult, while the Government's printing presses would have to run with redoubled speed in printing a new flood of paper money, to the inevitable ruin of Germany's general economic position. Another iron company in central Germany says that the new measures will reduce Germany's exports to Entente countries by nine-tenths. Another prominent establishment of South Germany has informed its customers in Entente lands that it will ship goods only upon receipt of full payment in advance.

The question has been variously ventilated in the trade whether the Government could be asked to remunerate manufacturers for the levy made abroad. The general view was that this could not be expected. Last week the finance ministers of the various states met here for a conference with the national Government and the Economic Council, and it was unanimously decided not to remunerate them. Germany's exports last year amounted to only 5,000,000,000 gold marks, or just about two-thirds of the imports. The Government regards it as a hopeless task to try to keep up exports by issues of indefinite amounts of paper money, nor does it see any way to begin making payments to the Allies until exports exceed imports by natural process.

Prices Declining

General news from the trade has been overshadowed by the anxieties mentioned above. While prices were officially left unchanged a month ago, it is now evident that a downward movement is in progress nevertheless. Bars and structural steel stand at the official price of 2440 and 2340 marks respectively, but bars have sold at 2100 marks. Heavy plates have dropped to 2700 (official 3000), medium plates to 2800 to 2900 (official 3360), thin plates to same price (official 3475), and wire rods to 2300 (official 2720). There has been heavy cutting on wire, which is not subject to the Iron Industry League. The official prices till recently were 335 marks per 100 kilos for plain wire and 400 for galvanized; but price cutting by the pure wire mills became so general that the works decided about two weeks ago upon a cut of 42 marks on both kinds.

The present export prices to Holland, in guilders, are as follows, with comparative prices in January in parenthesis: Bars 120 (130), heavy plates 135 (160), medium plates 150 (180), thin plates 145 (180), wire rods 120 (130). It is remarked in this connection that foreign competitors—presumably Belgium and France—are offering bars as low as 110 guilders; and that many German works refuse to sell below 120 guilders, as that would be below the home price. The latest drops of prices in England, France and Belgium have attracted attention in Germany as evidence of the further development of the crisis in the world's trade.

The state of the trade is described as unusually bad. Some reports even speak of a complete stoppage of business. It is attributed to the political and economic measures referred to above, and also to the sharp French and Belgian competition, the latter promoted by a superabundance of coal. Orders from home and abroad are of very light volume. The bad state of business is also attributed to the downward tendency of prices abroad, which causes both home and foreign buyers to hold off. Production, however, continues regular in pig and half-rolled products. Many foreign inquiries have come in recently at machine tool shops, and considerable business has been done; but home buyers are holding back contracts.

In this connection attention is drawn in the German trade to the fact that France, favored by both

abundant ores and cheap coal of German production, is cutting prices sharply to win foreign markets. France, it is asserted, is now the "dumping" land *par excellence*. Examples are given. It is said that France is selling No. 3 foundry iron in Switzerland at 260 francs, as against a home price of 310 to 320 francs. Also the French plate mills are selling abroad, chiefly in Switzerland, at 40 francs reduction per 100 kilos, which is about 40 per cent of the home price. It is further asserted that France has reduced railroad freights on export iron and steel very sharply.

The assumption mentioned in my last letter that the Stinnes concerns would import ores from Styria appears to have been incorrect. It is now said with apparent authority that all the ores mined there will be smelted on the spot; and the product will be sold in Austria and southeastern lands. It is predicted that when the Alpine Montan Co. gets fully into operation under the new management, with plenty of German coke, it will speedily capture the greater part of the trade in the southeast. The ore is said to be the greatest continuous deposit in Europe; it is an ore mountain.

In 1916, the year of maximum production, 2,360,000 tons of ore was mined by the Alpine, and 637,000 tons of pig was produced. When all the seven furnaces are in blast 500,000 tons of coke will be called for yearly.

EXPORTS MORE ACTIVE

Mexico Contracts for $20,000,000 Worth of Railroad Material—Bulgaria Wants 1066 Tons of Rails

NEW YORK, April 19.—An increasing number of inquiries is appearing in the market, principally from the Orient. An unusually large inquiry that recently was received by the New York branch of a London export company calls for about 2000 tons of light gage, plain galvanized sheets and is from a consumer in India. There is also some small inquiring from South America. One inquiry of the past week was for about 300 tons of plain fence wire.

Buying from Mexico is light but steady, most orders consisting of about a carload of material. One New York exporter recently quoted on about 400 boxes of tin plate to a Mexican buyer. Money is not easy there and like Cuba and South American markets the demand is usually for extended credit, which American exporters are generally either unable or unwilling to grant. The Argos Steel Products Corporation, 170 Broadway, New York, exporter, has received a contract on railroad material and rolling stock from the Minister of Communications and Public Works of the Mexican Government involving about $20,000,000. Included in the contract are 200 locomotives, 300 passenger cars and about 50,000 tons of steel rails. Payment is guaranteed by a trust on the equipment and the entire revenue of the National Railways of Mexico.

German Material Offered in Japan

In Japan there is continued offering of Continental material at lower than American prices and inspections made by Japanese buyers on the Continent have resulted in reports that materials are generally equal to the pre-war quality, according to exporters who are in close touch with Japan. Bars have been offered by Germany at about £11 per ton, (1.95c. per lb.) c.i.f. Japanese port for ¼-in. and smaller. Japanese buyers, however, are often inclined to disregard these low prices under present conditions, as they realize the unstable situation in Germany and the attendant possibility of strikes and the imposition of heavy taxes on German exports.

A modern ice manufacturing and storage plant is contemplated for the bay front between Kobe and Osaka, Japan, according to the Bureau of Foreign and Domestic Commerce. The plant will have a capacity of about 300 tons of ice a day and storage space of 1000 tons.

The ice will be handled by electric cranes to lighters and at Kobe and Osaka additional cranes will be installed on the docks. British, American and Japanese capital totaling 2,000,000 yen ($967,500) is involved. The plant will be completed this year.

Recent data issued by the Minister of Railroads in Japan show 6200 miles of government owned railroad compared with 2000 miles of private owned and operated. During the next 10 years the government proposes increasing the mileage under its control by 224 miles of standard gage track and about 772 miles of light railroad. The total expenditure will be in the neighborhood of 548,250,000 yen (about $265,215 937). The city of Tokio plans the replacement of 1000 old bridges with up-to-date iron and steel structures.

A large iron works is reported underway at Harbin in Manchuria. Chinese labor and foreign engineers have been engaged for the project which will be known as the Shwang Hou Shen. The situation in China continues to show improvement and inquiries are again beginning to be received by American exporters for various kinds of material. Foreign stocks that have been lying in warehouses at the ports since the beginning of the depression in the Far East have been greatly reduced.

Railroad Material to the Near East

One of the largest railroad inquiries now in the market is from the Minister of Railroads, Posts and Telegraphs in Bulgaria for 1066 tons of 60-lb. rails with about 275 tons of accessories including tie plates, steel ties, spikes and bolts for the Bulgarian state railroads. Bidders are required to deposit one fifth of quoted prices with a Bulgarian bank as evidence of good faith. Other states of the Near East including Rumania are beginning to renew rolling stock but most of this purchasing will probably be done in Europe.

Foreign Competition in Raw Materials

Exporters handling raw materials report both Belgian and German competition. Belgium can sell foundry iron to Italy and other European ports at about £5 15s. per ton, c.i.f. port, or $22 to $23 per ton. Germany is offering spiegeleisen at practically all foreign ports for about 1800 marks per ton or at the present exchange rate about $28.70 per ton delivered. It is reported from Brussels, Belgium, that a project is under consideration by the government to guarantee export trade with 55 per cent of the amount involved in a transaction, the banks guaranteeing 20 per cent and the manufacturer 25 per cent. Proof of the satisfactory financial status of the foreign buyer must be furnished to the government by the seller.

At an estimated cost of $3,000,000 the Argentine government will convert Rosario into a first class port, connected by rail with the interior. The Chilean government has requested tenders on several electric cranes of 20 to 50 tons capacity for use in building a pier at Arica for which $340,000 has been appropriated. The municipal government of Encarnacion, Paraguay, has requested permission from the federal government to issue tenders for bids on several small electric light and power houses.

Consolidated Steel Corporation Moves

The Consolidated Steel Corporation, the leading independent exporter of iron and steel, which has maintained offices at 165 and 141 Broadway, New York, took possession on April 16 of its new quarters in the Cunard Building, 25 Broadway, where it will occupy the entire seventeenth floor.

Steel Shipped to France

The Smith-Eiseman Corporation of America, 217 Broadway, New York, has completed shipment of about 40,000 tons of ship steel to France for construction of cargo and passenger steamers. Shipment was begun in January, 1920. A part of the steel was purchased from the United States Navy and the United States Shipping Board, and the remainder was purchased from various steel mills in this country.

British Iron and Steel Market

Works Virtually at a Standstill—Markets Stagnant—Tin Plate Stronger

(By Cable)

LONDON, ENGLAND, April 18.

As the colliers' strike continues, iron and steel production has virtually ceased. Fears of transport stoppages temporarily stimulated home demand for pig iron, but this business is now stopped. The idle iron makers are holding big stocks, and will probably not be willing to resume production until their liquidation is completed. Cleveland prices are unaltered.

Hematite is stagnant, with prices unchanged. Foreign ore is idle. Bilbao, Rubio is nominally 37½ s. ($7.35) ex-ship Tees. Most steel works are closed and buyers are hesitating, owing to anticipation of still lower prices. Large tonnages of continental material have been sold recently to the Far East at competitive figures. Continental steel bars have been sold at £10 5s. ($40.18) c.i.f. India.

Tin plates are firmer on steady buying of stock plates and wasters. Wales has booked a good order of odd sizes for Canadian packers; also a fair tonnage of plates for oils, for the East. Holders of stock galvanized sheets are realizing at low levels, as there is practically no demand for forward shipments. America is reported to have sold a fair line of black sheets to Japan.

We quote per gross ton except where otherwise stated, f.o.b. maker's works, with American equivalent figured at $3.92 per £1 as follows:

Durham coke	£2	14½			$10.68	
Cleveland basic	6	0			23.52	
Cleveland No. 1 foundry	6	5			24.50	
Cleveland No. 3 foundry	6	0			23.52	
Cleveland No. 4 foundry	5	19			23.32	
Cleveland No. 4 forge	5	17½			23.03	
East Coast mixed	9	0 &	£8	5*	35.28 &	$32.34
Ferromanganese	19	0 to	20	0	74.48 to	78.40
Ship plates	17	0 to	19	0	66.64 to	74.48
Boiler plates	24	0 to	25	0	94.08 to	98.00
Tees	16	0 to	18	10	62.72 to	72.52
Channels	15	5 to	17	5	59.78 to	67.62
Beams	15	0 to	17	10	58.80 to	68.60
Round bars, ¾ to 3 in.	15	10 to	16	10	60.76 to	64.68
Rails, 60 lb. and up	17	10 to	18	0	68.60 to	70.56
Billets	13	10 to	14	0	52.92 to	54.88
Sheet and tin plate bars, Welsh	12	15 to	13	0	49.98 to	50.96
Galvanized sheets, 24 g.	22	0 to	23	0	86.24 to	90.16
Black sheets	21	0 to	22	0	82.32 to	86.24
Tin plate base box	1	9 to	1	12	5.68 to	6.27
Steel hoops	17	10 to	20	0	68.60 to	78.40

*Export price.

Taxation on Imports—Industry Paralyzed by Coal Strike—Ship Repairs Abroad

LONDON, ENGLAND, April 6.—The country is at present in the throes of a coal strike and it is quite impossible to see where it will end. This of course has arisen owing to the abandonment of control over the coal mining industries by the government. Industry generally is being paralyzed.

The government proposals in regard to the new bill for the protection of industry in this country have now been published. It is proposed to levy an ad valorem duty of 33 1/3 per cent for a period of five years on certain commodities, the articles including chemical and scientific glass ware, magnetos and tungsten products. As many of the articles come from Germany, they are already subject to 50 per cent tax under the Reparation Bill. In addition to these, there are proposals to protect the trade here from the selling of goods below the cost of production in the country of manufacture and further to protect manufacturers here against the competition of foreign goods which, owing to depreciated exchange, can be sold at prices below those at which they can be profitably manufactured here. The bill of course has not yet been presented to Parliament but it is understood that it will be something on these lines.

The pig iron trade is in a state of suspense owing to the coal strike. A rather unexpected reduction took place this week in the price of Cleveland iron, all grades being reduced 30s. per ton. It will be necessary, however, to wait until the present labor troubles are settled before it can be seen whether this price stimulates business. So far as the steel trade is concerned, things had been looking better owing to a broadening of inquiry from the East but here again it looks as if any improvement in industry had been nipped in the bud of the miners' action. Meanwhile, apart from strikes, there is quite sufficient unemployment. On March 24 there were 1,413,751 persons on the registers of unemployed and in addition 827,000 persons claimed unemployment benefit or out-of-work donations in respect of systematic short time.

As to ship building wages, it seems that a recent conference held at Carlisle failed to reach any settlement. It is understood that the Ministry of Labor will be asked to intervene and set up machinery at the earliest moment for the settlement of the dispute. Clyde ship builders state that as a result of the ship yard joiners' strike they have lost more valuable repair work than at any previous time. Some owners have decided to continue running their ships without overhaul while others are sending their repair work abroad. Seven Canadian Pacific liners, it is stated, had been sent to Antwerp for overhaul while other owners are sending ships with cargo to New York where repair work is being carried out.

REFRACTORY MARKET

Manufacturers Reduce Prices—Prospects for Increased Operations Not Good

PITTSBURGH, April 18.—In keeping with the recent revision in steel prices by the Steel Corporation, leading manufacturers of fire clay brick and other refractories have reduced prices and it is probable that all manufacturers will adopt the new schedules of the leading makers. A horizontal reduction of $5 per ton has been made in silica brick and one of from $2 to $5 in the prices of fire clay brick. An even sharper cut has been made in magnesite brick, which now are quoted by important producers at $80 per net ton for standard sizes, a drop of $10 per net ton. A cut of $5 per net ton has been made in chrome brick. This reduction is the industry's contribution to the general readjustment of commodity prices, as it was made not so much with a hope of stimulating business, which could not improve much until there had been a substantial recovery in the demand for iron and steel, but rather with an idea of assisting the iron and steel industry to operate profitably at the new schedule of prices.

Business in the various grades of refractory brick remains extremely dull and it is a good many years since so little capacity was engaged as is the case to-day. The prospect for increased operations of brick making plants is not particularly bright for the reason that makers of iron and steel are carrying good sized stocks and there are only a few cases where their stocks are insufficient for immediate requirements. Manufacturers' stocks, moreover, are equal to about 30 days' normal demand. LaBelle Iron Works is likely to be in the market before long for both fire clay and silica brick in connection with its program of enlargement of its open-hearth furnaces at Steubenville, Ohio. Brick required for the rebuilding of one of the blast furnaces of this company are believed to have been already purchased.

We quote per 1000 f.o.b. works:

Fire Clay:	High Duty	Moderate Duty
Pennsylvania	$38.00 to $45.00	$33.00 to $38.00
Ohio	36.00 to 40.00	30.00 to 35.00
Kentucky	36.00 to 40.00	34.00 to 38.00
Illinois	40.00 to 45.00	30.00 to 40.00
Missouri	45.00 to 50.00	35.00 to 40.00
Silica Brick:		
Pennsylvania		40.00 to 45.00
Chicago		45.00 to 50.00
Birmingham		51.00 to 56.00
Magnesite Brick:		
Standard size, per net ton		80.00
Chrome Brick:		
Standard size, per net ton		70.00

Prices Finished Iron and Steel, f.o.b. Pittsburgh

Freight Rates

Freight rates from Pittsburgh on finished iron and steel products, in carload lots, to points named, per 100 lb., are as follows:

Philadelphia	$0.35	St. Paul	$0.665
Baltimore	0.335	Omaha	0.815
New York	0.38	Omaha (pipe)	0.77
Boston	0.415	Denver	1.35
Buffalo	0.295	Denver (wire products)	1.415
Cleveland	0.24	Pacific Coast	1.665
Cincinnati	0.325	Pacific Coast, ship plates	1.335
Indianapolis	0.345	Birmingham	0.765
Chicago	0.38	Jacksonville, all rail	0.555
St. Louis	0.475	Jacksonville, rail and water	0.46
Kansas City	0.815	New Orleans	0.515
Kansas City (pipe)	0.77		

The minimum carload to most of the foregoing points is 36,000 lb. To Denver the minimum loading is 40,000 lb., while to the Pacific Coast on all iron and steel products, except structural material, the minimum is 80,000 lb. On the latter item the rate applies to a minimum of 50,000 lb., and there is an extra charge of 9c. per 100 lb. on carloads of a minimum of 40,000 lb. On shipments of wrought iron and steel pipe to Kansas City, St. Paul, Omaha and Denver, the minimum carload is 46,000 lb. On iron and steel items not noted above the rates vary somewhat and are given in detail in the regular railroad tariffs.

Rates from Atlantic Coast ports (i.e., New York, Philadelphia and Baltimore) to Pacific Coast ports of call on most steamship lines, via the Panama Canal, are as follows: Pig iron, 55c.; ship plates, 70c.; ingot and muck bars, structural steel, common wire products, including cut or wire nails, spikes and wire hoops, 75c.; sheets and tin plates, 60c. to 75c.; rods, wire rope, cable and strands, $1; wire fencing, netting and stretcher, $1; pipe, not over 8 in. in diameter, 85c.; over 8 in. in diameter, 2½c. per in. or fraction thereof additional. All prices per 100 lb. in carload lots, minimum 40,000 lb.

Structural Material

I-beams, 3 to 15 in.; channels, 3 to 15 in.; angles, 3 to 6 in., on one or both legs, ¼ in. thick and over, and zees, structural sizes, 2.20c.

Wire Products

Wire nails, $3.00 to $3.25 base per keg; galvanized, 1 in. and longer, including large-head barbed roofing nails, taking an advance over this price of $1.50 and shorter than 1 in., $2; bright Bessemer and basic wire, $3.00 per 100 lb.; annealed fence wire, Nos. 6 to 9, $3.00; galvanized wire, $3.70; galvanized barbed wire, $4.10; galvanized fence staples, $4.10; painted barbed wire, $3.40; polished fence staples, $3.40; cement-coated nails, per count keg, $2.85; these prices being subject to the usual advances for the smaller trade, all f.o.b. Pittsburgh, freight added to point of delivery, terms 60 days, net, less 2 per cent off for cash in 10 days. Discounts on woven-wire fencing are 58 to 63 per cent off list for carload lots, 57 to 62 per cent for 1000-rod lots, and 56 to 61 per cent for small lots, f.o.b. Pittsburgh.

Bolts, Nuts and Rivets

Large structural and ship rivets.....$3.50
Large boiler rivets.....3.60
Small rivets.....60, 10 and 10 per cent off list
Small machine bolts, rolled threads, 60, 10 and 10 per cent off list
Same sizes in cut threads.....60 and 10 per cent off list
Longer and larger sizes of machine bolts..60 per cent off list
Carriage bolts, ⅝-in. x 6-in.:
Smaller and shorter, rolled threads..60 and 5 per cent off list
Cut threads.....50, 10 and 5 per cent off list
Longer and larger sizes.....50 and 10 per cent off list
Lag bolts.....65 per cent off list
Plow bolts Nos. 1, 2 and 3 head....50, 10 and 5 per cent off list
Other style heads.....20 per cent extra
Machine bolts, c.p.c. and t. nuts ⅝-in. x 4-in.:
Smaller and shorter.....50, 10 and 5 per cent off list
Longer and larger sizes.....50 and 5 per cent off list
Hot pressed sq. or hex. blank nuts.....$4.00 off list
Hot pressed nuts, tapped.....$3.50 off list
C. p. c. and t. sq. or hex. nuts, blank.....$4.00 off list
C. p. c. and t. sq. or hex. nuts, tapped.....$3.50 off list
Semi-finished hex. nuts:
¼ to 9/16 in. inclusive U. S. S....80 and 10 per cent off list
Same sizes S. A. E.....80 and 10 per cent off list
⅝ to 1 in. inclusive U. S. S. and S. A. E., 70, 10 and 10 per cent off list
Stove bolts in packages.....80 and 10 per cent off list
Stove bolts in bulk.....80, 10 and 2½ per cent off list
Tire bolts.....65, 10 and 10 per cent off list
Track bolts.....4.75c. base

Square and Hex. Head Cap Screws

½ in. and under.....65 and 10 to 70 per cent off list
9/16 in. to ¾ in.....65 to 70 per cent off list

Set Screws

½ in. and under.....70 and 5 to 70 and 10 per cent off list
9/16 in. to ¾ in.....65 and 10 to 70 per cent off list

One cent per lb. extra for less than 200 kegs. Rivets in 100-lb. kegs, 25c. extra to buyers not under contract; small and miscellaneous lots less than two tons, 25c. extra; less than 100 lb. of a size, or broken kegs, 50c. extra.

All prices carry standard extras f.o.b. Pittsburgh.

Wire Rods

No. 5 common basic or Bessemer rods to domestic consumers, $48; chain rods, $48; screw stock rods, $53; rivet and bolt rods and other rods of that character, $48; high carbon rods, $58 to $73, depending on carbons.

Railroad Spikes and Track Bolts

Railroad spikes, 9/16-in. and larger, $3.30 per 100 lb. in lots of 200 kegs of 200 lb. each or more; spikes, ½-in., ⅝-in., and 7/16-in., $3.65; 5/16-in., $4.25. Boat and barge spikes, $3.85 per 100 lb. in carload lots of 200 kegs or more, f.o.b. Pittsburgh. Track bolts, $4.50 base per keg of 200 lb. Tie plates, $2.50 per 100 lb.

Terne Plates

Prices of terne plates are as follows: 8-lb. coating, 200 lb., $12.30 per package; 8-lb. coating, I. C., $12.60; 12-lb. coating, I. C., $14.30; 15-lb. coating, I. C., $15.30; 20-lb. coating, I. C., $16.55; 25-lb. coating, I. C., $17.80; 30-lb. coating, I. C., $18.80; 35-lb. coating, I. C., $19.80; 40-lb. coating, I. C., $20.80 per package, all f.o.b. Pittsburgh, freight added to point of delivery.

Iron and Steel Bars

Steel bars at 2.10c. from mill. Refined bar iron, 2.75c.

Welded Pipe

The following discounts are to jobbers for carload lots on the Pittsburgh basing card:

Butt Weld

Steel			Iron		
Inches	Black	Galv.	Inches	Black	Galv.
⅛	50½	24	¼ to ⅜	+2½	+28½
¼ to ⅜	52½	26	½	27½	9½
½	56½	42	¾	33½	18½
¾	60½	48	1 to 1½	35½	20½
1 to 3	62½	50			

Lap Weld

2	54½	42	2	30½	16½
2½ to 6	58½	46	2½ to 6	33½	20½
7 to 12	54½	41	7 to 12	29½	16½
13 to 14	45	..			
15	42½	..			

Butt Weld, extra strong, plain ends

⅛	46½	29	¼ to ⅜	+10½	+43½
¼ to ⅜	48½	31	½	26½	14½
½	53½	42	¾	33½	19½
¾	58½	47	1 to 1½	35½	21½
1 to 1½	60½	49			
2 to 3	61½	50			

Lap Weld, extra strong, plain ends

2	52½	41	2	31½	18½
2½ to 4	56½	45	2½ to 4	34½	22½
4½ to 6	55½	44	4½ to 6	33½	21½
7 to 8	50½	37	7 to 8	24½	12½
9 to 12	45½	32	9 to 12	19½	7½

To the large jobbing trade an additional 1, 5 and 2½ per cent is allowed over the above discounts, which are subject to the usual variations in weight of 5 per cent.

Boiler Tubes

The following are the discounts for carload lots f.o.b. Pittsburgh:

Lap Welded Steel		*Charcoal Iron*	
1¾ in.	19½	1¾ to 1⅞ in.	+10
2 to 2¼ in.	30	2 in.	List
2½ to 3 in.	41	2¼ in.	—2
3¼ to 13 in.	47	2½ to 2¾ in.	—6
		3 to 3¼ in.	—7
		3½ to 4½ in.	—12

Carload Discounts on Standard Commercial Seamless—

Cold Drawn

1 in.	56	2 to 2½ in.	17½
1¼ in.	49	2¾ and 4 in.	20
1½ in.	48	4½ to 5 in.	7½
1¾ in.	25		

Hot Rolled

3 to 4 in.....30

These prices do not apply to special specifications for locomotive tubes nor to special specifications for tubes for the Navy Department which will be subject to special negotiations.

Sheets

Prices for mill shipments on sheets of standard gage in carloads, f.o.b. Pittsburgh, follow:

Blue Annealed

Cents per Lb.		Cents per Lb.	
No. 8 and heavier	3.00	Nos. 11 and 12	3.15
Nos. 9 and 10		Nos. 13 and 14	3.20
(base)	3.10	Nos. 15 and 16	3.30

Box Annealed, One Pass Cold Rolled

Cents per Lb.		Cents per Lb.	
Nos. 17 to 21	3.80	No. 28 (base)	4.00
Nos. 22 to 24	3.85	No. 29	4.10
Nos. 25 and 26	3.90	No. 30	4.20
No. 27	3.95		

Galvanized Black Sheet Gage

Cents per Lb.		Cents per Lb.	
Nos. 10 and 11	4.00	Nos. 25 and 26	4.70
Nos. 12 to 14	4.10	No. 27	4.85
Nos. 15 and 16	4.25	No. 28 (base)	5.00
Nos. 17 to 21	4.40	No. 29	5.25
Nos. 22 to 24	4.55	No. 30	5.50

Tin-Mill Black Plate

Cents per Lb.		Cents per Lb.	
Nos. 15 and 16	3.80	No. 28 (base)	4.00
Nos. 17 to 21	3.85	No. 29	4.05
Nos. 22 to 24	3.90	No. 30	4.05
Nos. 25 to 27	3.95	Nos. 30½ and 31	4.10

Non-Ferrous Metals

The Week's Prices

Cents Per Pound for Early Delivery

	Copper, New York		Tin	Lead		Zinc	
April	Lake	Electrolytic	New York	New York	St. Louis	New York	St. Louis
13.....	12.75	12.50	29.25	4.25	4.25	5.12½	4.62½
14.....	12.75	12.50	29.75	4.25	4.25	5.12½	4.62½
15.....	12.75	12.50	30.25	4.25	4.25	5.12½	4.62½
16.....	12.75	12.50	....	4.25	4.25	5.12½	4.62½
18.....	12.75	12.50	31.00	4.25	4.25	5.15	4.65
19.....	12.75	12.50	31.00	4.25	4.25	5.15	4.65

NEW YORK, April 19.

Improvement has developed in some of the markets but it is not especially pronounced. A better tone pervades the copper market, based largely on more extended foreign sales. The tin market is quiet but higher in sympathy with conditions in England. Lead continues in a strong position with demand fair and prices fairly firm. A slightly better inquiry for zinc has steadied this market.

New York

Copper.—Japan has again appeared as the principal factor in this market after a long absence, that country having been a heavy buyer a year or so ago and late in the war. It develops that in the last week sales to Japanese buyers have been made totaling 2,600,000 to 3,000,000 lb. and it is stated that inquiries still before the market amount to 3,000,000 lb. It is understood that the sales have been made at prices slightly above those for domestic melting. Buyers for American consumption continue few and far between with transactions limited to small amounts for early delivery. Prices continue steady to firm, electrolytic being quoted at 12.75c. to 13c., delivered, depending on the position, or 12.50c. to 12.75c., New York. Lake copper is in light demand with quotations 13c. to 13.25c., delivered, depending on the position.

Tin.—Until late last week the market has been quiet and uninteresting but the improvement in the labor situation in England late Friday resulted in a more active market here which developed into a fairly strong movement on the report of the collapse of the British strike. There was a fair demand from dealers and sales of Eastern shipment were made at 29.75c. to 30.25c. More tin could have been sold at this time, but sellers were few so that the total sales were light, comparatively. As a result of the better buying here on Friday the London market was considerably stronger yesterday and to-day, the advance amounting to £7 to £8 per ton. The advance which took place both in London and here yesterday had a tendency to dampen business so that the market has again turned dull. Spot Straits, New York, was quoted to-day at 31c., while the London market ruled at £168 per ton for spot standard, £169 15s. for future standard and £176 for spot Straits, the latter being nearly £7 above the price a week ago. Arrivals thus far this month have been light at 460 tons, with the quantity afloat reported as 1100 tons.

Lead.—The market has been quiet and only fairly firm. A moderate business has been done but consumers are not anxious to buy and the leading interest appears able to satisfy most of the consuming demand at 4.25c., both New York and St. Louis, which continues to be its quotation. The market of the independents is quoted at 4.25c., St. Louis, or 4.37½c. to 4.50c., New York, but very little business is being done at these prices. There is increasing evidence that Spanish lead will be or is an important factor in this market, it being stated that several thousand tons have been contracted for.

Zinc.—An improved demand for prime Western by galvanizers is reported which has caused a better tone than has prevailed for some time. Actual buying is not large but it is more than has prevailed for some weeks and transactions that have been made have resulted in a slight stiffening in prices. Prime Western was sold during the week as low as 4.62½c., St. Louis, but it cannot now be bought for less than 4.65c. and some believe that 4.70c., St. Louis, will soon prevail. These quotations apply to April-May delivery. One transaction, however, is noted for May delivery at 4.70c., St. Louis.

Antimony.—Wholesale lots for early delivery are quoted unchanged at 5.12½c., New York, duty paid.

Aluminum.—Virgin metal, 98 to 99 per cent pure, in wholesale lots for early delivery is quoted by the leading producer at 28c. f.o.b. plant, while foreign metal is offered by other sellers at 23c. to 23.50c., New York. Several sales of the latter brand in lots of 25 to 100 tons are reported.

Old Metals.—The week has been a dull one with very little trading. Dealers' selling prices are nominally as follows:

	Cents Per Lb.
Copper, heavy and crucible	12.50
Copper, heavy and wire	11.25
Copper, light and bottoms	9.50
Heavy machine composition	12.00
Brass, heavy	8.00
Brass, light	6.25
No. 1 red brass or composition turnings	9.25
No. 1 yellow rod brass turnings	6.00
Lead, heavy	4.00
Lead, tea	3.00
Zinc	3.50

Chicago

APRIL 19.—Most consumers profess to regard present prices as rock bottom but they are doing little buying, probably because their present needs are small and they do not look for larger requirements in the near future. Prices of both new and old metals remain the same with the exception of tin which has advanced in sympathy with the sharp rise in the London silver market yesterday. The silver and tin markets are intimately connected because 75 per cent of the tin produced is paid for in silver which is the standard of value in the far Eastern countries. We quote Lake copper at 13c. in carload lots; tin, 32.50c.; lead, 4.37½c.; spelter, 4.75c. to 4.90c.; antimony, 7.50c. On old metals we quote copper wires, crucible shapes, 8c.; copper clips, 8c.; copper bottoms, 7c.; red brass, 8c.; yellow brass, 5.50c.; lead pipe, 2.75c.; zinc, 2c.; pewter, No. 1, 17c.; tinfoil, 19c.; block tin, 22c., all these being buying prices for less than carload lots.

St. Louis

APRIL 18.—The non-ferrous markets have continued dull during the week with lead quoted in car lots at 4.35c. and spelter at 4.65c. to 4.75c. On less than car lots the quotations are: Lead, 5c.; spelter, 5.50c.; tin, 34c.; copper, 14c.; antimony, 7.50c. In the Joplin ore market there has been no change in the price of zinc blende, while calamine is still out of the market because prices do not warrant working the mines. Lead ore is higher at $47.50 per ton, basis 80 per cent. On miscellaneous scrap metals we quote dealers' buying prices as follows: Light brass, 4c.; heavy yellow brass, 6.50c.; heavy red brass, 8c.; heavy copper and copper wire, 9c.; light copper, 8c.; pewter, 13c.; tinfoil, 18c.; aluminum, 10c.; zinc, 3c.; lead, 3.50c.; tea lead, 2c.

The Truscon Steel Co., Youngstown, Ohio, has arranged with the industrial department of the Baltimore & Ohio Railroad for the leasing of a site for a storage warehouse in the Camp Washington section of Cincinnati. It is understood that work will shortly commence on the erection of a building suitable for the needs of the company. The Cincinnati office of the company is now located in the Provident Bank Building.

H. L. Unland, of the power and mining engineering department of General Electric Co., Schenectady, N. Y., was the speaker at the regular monthly meeting of the Engineers' Society of Western Pennsylvania at William Penn Hotel, Pittsburgh, Tuesday evening, April 19, the subject of his paper being "Erection of Steel Structures by Arc Welding."

PERSONAL

S. W. Palmer has been appointed superintendent of the Blairsville Iron Works, Blairsville, Pa., succeeding the late I. E. Edwards.

L. R. Shellenberger, structural engineer, formerly with Dwight P. Robinson & Co., will open offices in New York as a consulting engineer.

Victor T. Goggin, formerly New England sales manager Fred T. Ley & Co., Inc., is now contracting engineer with Dwight P. Robinson & Co., Inc., New York.

E. E. Eby has joined the Remy Electric Co., Anderson, Ind., as purchasing agent. He was formerly American director of Delco-Remy, Ltd., and Hyatt, Ltd., with offices in New York.

Prof. John H. Nelson, metallurgist Wyman-Gordon Co., Worcester, Mass., drop forging, spoke on "The Forging and Heat Treating of Alloy Steels" before the Springfield, Mass., chapter, American Society for Steel Treating, at the Chamber of Commerce, Friday evening, April 15.

W. J. Timberman, Jr., has been appointed New York sales agent for the Clyde Iron Works Sales Co., Duluth, Minn., manufacturer of hoisting machinery.

August P. Engelen, formerly general foreman in charge of production, Foster-Merriam Co., Meriden, Conn., brackets, castings, etc., has been made non-production planning manager S. K. F. Ball Bearing Co., Hartford, Conn.

W. R. Noxon has been appointed sales manager for the Alexander Milburn Co., Baltimore. His experience in the oxy-acetylene line began in 1908 as sales manager for the Davis-Bournonville Co., New York. After an interim from 1914 to 1915, he was re-engaged as district manager at Chicago, continuing in that position until recently.

Dr. Allerton S. Cushman, Institute of Industrial Research, spoke on "Some Recent Observations on the Corrosion of Iron and Steel" at a joint meeting of engineers, material testers and steel treaters, at Hartford, Conn.

S. B. Chase, formerly with the Waltham Wheel Co., Waltham, Mass., has joined the sales organization of the Heald Machine Co., Worcester, Mass., and has been assigned to Western territory.

Alexander C. Brown, president Brown Hoisting Machinery Co., Cleveland, was elected president of the Cleveland Chamber of Commerce at the annual meeting of the board of directors, April 13. He served as vice-president for two years. E. C. Collins, vice-president Pittsburgh Steamship Co., was elected one of the vice-presidents.

John A. Baker, formerly with the Mesta Machine Co., Pittsburgh, as assistant general superintendent, has been appointed works manager for the Los Angeles plant of the Rich Steel Products Co.

Col. W. H. Alden, vice-president Timken-Detroit Axle Co., has been made a member of the executive committee of the Federal Highway Council, Washington, D. C.

F. W. McIntyre has been appointed general sales manager of the Reed-Prentice Co., Whitcomb-Blaisdell Machine Tool Co., Worcester, Mass., and Becker Milling Machine Co., Hyde Park, Boston, succeeding J. P. Ilsley, who has resigned to accept a position with the Taylor Steel Construction Co., New York. General sales offices of the three companies will be located in Worcester, Mass., and direct sales offices will be maintained in New York, Detroit, Cleveland, Indianapolis and Worcester. The Dale Machinery Co. has been appointed sales agent of the three companies in the Chicago territory. Normoyle & Lapp, 514 Liberty Building, Philadelphia, have been appointed sales agent of the companies in the Philadelphia territory.

President Harding last Saturday sent to the Senate the name of H. Foster Bain for renomination as director of the Bureau of Mines. It is believed that the appointment will be confirmed without difficulty. Mr. Bain had taken the appointment under President Wilson as a duty rather than through any personal desire.

G. Conway Shackelford has resigned as consulting engineer of the Republic Iron & Steel Co., Youngstown, Ohio, after serving the company for 14 years. He is succeeded by Stanley M. McKee, his assistant, who assumes the title of chief engineer. Mr. Shackelford will return to his old home in Virginia, where he has purchased a large stock farm and will enter into stock raising. Prior to his connection with the Republic company, he served in engineering capacities with the United States Steel Corporation. As chief engineer of the Republic company, he supervised the plans for the Lansingville plant at Youngstown.

Russell B. Reid, for several years with the Edward R. Ladew Co. as assistant sales manager, has been made manager of sales for the Sharon Pressed Steel Co., Sharon, Pa., manufacturer of motor car frames, industrial trucks and pressed steel automobile parts. Mr. Reid will direct the sales of the company from the New York office at 66 Broadway.

H. G. Barbee, formerly in charge of Eastern railroad sales of the Chicago Pneumatic Tool Co., has been appointed manager of railroad sales, with headquarters in the Chicago Pneumatic Building, 6 East Forty-fourth Street, New York, as in the past.

Frank N. Satter has resigned from the Youngstown Sheet & Tube Co., Youngstown, Ohio, to become chief inspector for the Newton Steel Co., Newton Falls, Ohio.

George B. Troxell, with the Bethlehem Steel Co., at Bethlehem, Pa., the past five years, has resigned as assistant superintendent of the electric furnace and crucible departments. He is considering a South American project.

F. J. McCarty has resigned as general foreman of the socket shop, Youngstown Sheet & Tube Co., Youngstown, Ohio, to become president of the Federal Iron Works of Youngstown. He was with the sheet and tube company for 19 years.

W. W. Runyan, who has been superintendent of operation of the Neville Island Ordnance Storage Depot, and who previously was associated with the Whitaker-Glessner Co., both in an operating and a sales capacity, at Portsmouth, Ohio, has joined the sales force of Max Solomon, scrap iron and steel, Oliver Building, Pittsburgh. Mr. Runyan was district sales representative of Whitaker-Glessner Co. at Atlanta, Ga., and also represented the company in the Southwest, with headquarters at Kansas City, for one year. For the past three years he has been connected with the ordnance department, first with the Pittsburgh district ordnance office and, after the signing of the armistice, with the Pittsburgh district salvage board.

D. W. Pitcock resigned as superintendent of the Massillon Rolling Mill Co. on April 6, a position he occupied for seven years.

OBITUARY

LESTER GRAY FRENCH, since 1908 editor and assistant secretary American Society of Mechanical Engineers, and manager of "Mechanical Engineering," died in New York April 18 after an operation. Mr. French was born in Keene, N. H., April 18, 1869. He was graduated from the Massachusetts Institute of Technology in 1891 with the degree of S.B. After a year with the Cranston Printing Press Co. he became instructor in mechanical engineering at the International Correspondence Schools, Scranton, Pa., and later assistant to the superintendent, Builders Iron Foundry, Providence, R. I. From 1897 until 1906 he was editor in chief of "Machinery," spending the next two years in publication of technical books.

ADAM EHRET, president Crown Foundry Co., Belleville, Ill., died in that city on April 3, aged 61.

NO WAGE REDUCTION

Chairman Gary Says Steel Corporation Is Not Ready to Act—Relates Incident Connected With Steel Strike Report

At the annual meeting of the United States Steel Corporation at Hoboken, N. J., Monday, Richard V. Lindabury, Thomas Murray, Robert Winsor and Percival Roberts, Jr., were re-elected directors, and no successor was chosen to fill the vacancy caused by the resignation of James H. Reed. Messrs. Lindabury and Roberts and J. P. Morgan were elected to administer the Steel Corporation's profit sharing fund set up for the benefit of employees.

One stockholder inquired as to wages. Judge Gary replied that the question had not been considered and it would be foolish for him to say what the corporation would do until the question had been carefully considered by the directors and the Finance Committee as well as the presidents of the subsidiary companies. "We will not lower wages," he continued, "unless and until in justice to all others concerned it seems to be the fair and necessary thing to do. Retail commodity prices are not as low as they ought to be. I do not think wages should be the first to come down. With the cost of living materially reduced there will be some reduction in wages. When that time will come I do not care to express an opinion."

Business Conditions

Asked as to the business situation, Mr. Gary said: "I do not care to make any predictions, but if any country in the world can survive, the United States can prosper.

"I believe," said Judge Gary, "there could have been readjustments in regard to the steel trade and all lines of business whereby we might have reached more readily a proper basis, provided the business men had all kept their heads and proceeded in a careful and orderly manner. Some few prominent men did not do so, and that endangered the general situation. I want to say as a total, in view of what happened in the world's business during the past six or seven years, the United States Steel Corporation ought to be thankful that its conditions are as favorable as they are."

Report on the Steel Strike

When asked in regard to the Interchurch World Movement report on the steel strike, Judge Gary said that he was out of the country when the report was made and for some time thereafter, and that when he returned he decided not to make a reply, but replies had been made by several people, including Rev. E. Victor Bigelow, Andover, Mass., and by a Mr. Patterson, connected with the Association of Sheet and Tin Plate Manufacturers. He did not care to discuss the report in general, but he related one incident, telling of a visit which a sub-committee of the church investigators made to him. In the course of the conversation, it developed that the committeemen had been in conference with William Z. Foster, the syndicalist, and John Fitzpatrick. Judge Gary said to the committeemen: "Gentlemen, I am sorry that you should have anything to do with them, and I do not care to have any further conversation with you on the subject." Judge Gary added that he felt justified in taking this position on account of the records of Foster and Fitzpatrick. He had not intended, however, to be discourteous to the committee.

Policy as to Dividends

One stockholder expressed the opinion that the corporation's surplus is now big enough so that any further additions might be criticized by its enemies. He offered a resolution providing that in the future all earnings be distributed when and as earned to the stockholders.

Judge Gary stated that the corporation could be depended upon to "do the right thing in the right manner and at the proper time," and reminded the stockholders that the surplus was not cash and $110,000,000 was invested in Government securities which could only be sold at an unnecessary sacrifice. The resolution was tabled.

William Coyne of Wilmington, Del., who is connected with the Du Pont Powder Co., extolled the dividend policy of the corporation.

J. C. Sibley, Jr., presented resolutions indorsing the policies of the management, especially with respect to labor, which were adopted.

PROTEST AGAINST TARIFF

Independent Steel Producers Object to High Protection for Ferromanganese

WASHINGTON, April 19.—Protests are being made through personal representation, telegraph and letters from independent steel producers against a high tariff duty on ferromanganese. Some are urging the House Subcommittee on Metals not to place any duty on this ferroalloy, but to continue it on the free list. Independent consumers became disturbed over the fact that consideration had been given to fixing of a rate of 1c. per lb., though actual determination of such a duty has not been definitely arrived at. It is believed that protests have carried considerable weight and that a lower rate than the one indicated will be decided upon, or that ferromanganese may be continued on the free list with the belief that antidumping legislation will prevent unfair competition through importations.

At the same time the subcommittee is being appealed to by the minerals division of the Southern Tariff Association to fix duties on minerals produced in the South and that a permanent bill be reported at the earliest possible time in order to stimulate mining in that section. Requests are also made that a joint resolution be adopted to make rates in the permanent act effective from the bill introduced in the House.

Suggestions for revision of exchange and antidumping provisions, carried in the emergency bill passed by the House last week, are being made before the Senate Committee on Finance, which is conducting hearings on these features of the measure. J. D. Nevins, United States Customs Service, to-day recommended equalization of exchange to apply only to shipments after the emergency act passes and that it should not be made retroactive. George Davis, chief special agent, same service, in giving testimony on the antidumping provision, suggested a duty be placed on the basis of the price paid abroad by American importers and that the sum reached be converted at current rate of exchange.

Chairman Penrose of the Finance Committee, who is in charge of the emergency bill in the Senate, said there probably will be no hearings on taxation legislation till the emergency measure passes the Senate, which probably will be two weeks or more.

Representative Fess, Ohio, to-day introduced a bill for the creation of a commission to inquire into the federal taxation system and to recommend revisions it considers necessary.

Following the reductions in prices announced by the subsidiaries of the United States Steel Corporation, Deere & Co., Moline, Ill., and the Advance-Rumely Co., South Bend, Ind., reduced the prices of farm machinery manufactured by them 10 per cent.

Operations started recently in the new plant of the Ewing Bolt & Screw Co., Detroit, in the River Rouge district. Its products are screws, bolts and rivets.

Philadelphia Iron and Steel Market

(*Continued from page* 1070)

were recently taken. Bids were put in for both cast-iron and steel pipe; about 4250 tons of cast-iron pipe or 1000 tons of 7/16-in. plates will be required. On current inquiries, 2.20c., Pittsburgh, is being quoted by all mills in this district.

Structural Material.—A considerable amount of construction work is being figured, the estimating departments of fabricating companies in this district being kept extremely busy. Much of the work which has been figured in recent months, however, is still held up, largely on account of the high cost of labor, but an adjustment of wages is expected on May 1, after which some of the pending work may go ahead. Fabricators are in most instances figuring close to cost in an effort to get work to keep their organizations together. Some work recently placed was at about $78, fabricated and erected. Mills are quoting 2.20c., Pittsburgh, for plain material, but on a considerable number of building projects which were estimated upon prior to the recent advance by independent mills protection has been given. In a few cases this protection runs to May 1.

Bars.—Very little bar tonnage is being offered. Steel companies find bar orders about the most difficult to get. An addition to the Franklin Bank Building, to be built of reinforced concrete, will require a substantial tonnage of reinforcing bars. Mills are now quoting 2.10c., Pittsburgh, for steel bars. Iron bars are still available at 2c., Pittsburgh, though some mills have advanced their price to 2.10c.

Sheets.—A contract for 500 tons of blue annealed sheets for April-May-June shipment has been booked by an Eastern company at the new price of 3.10c., Pittsburgh. Prices quoted by all sheet makers are now uniform, the quotations on black and galvanized sheets being 4c. and 5c. respectively. Resale sheets are being offered at prices "below the market."

Bolts, Nuts and Rivets.—Makers of bolts in this district did a "right-about-face" on prices last week, canceling a reduction which had been put into effect a few days previously and going back to the former prices. The reduction was due largely to the expectation that the Steel Corporation would announce a reduction on steel bars to about 1.75c., Pittsburgh. When it was found that the steel bar price was to be 2.10c. the bolt makers promptly withdrew the lower quotations and substituted the former prices. Some contracts were revised downward and then upward within one week. The new discount on large machine bolts is 60 per cent off list, instead of 60 and 10 per cent, and other bolt prices are on the same basis. Prices on rivets and spikes have not been advanced again.

Track Supplies.—The Pennsylvania Railroad is inquiring for 7500 kegs of spikes, 100,000 to 150,000 heat-treated bolts and 150,000 to 450,000 tie plates.

Old Material.—An Eastern steel company last week bought 1000 tons of heavy melting steel at $11.50, delivered, and then reduced its price to $11 and obtained a few small lots at the latter figure. Some other scrap prices are also lower. Very little business is being done. We quote for delivery at consuming points in this district as follows:

No. 1 heavy melting steel	$11.00 to $11.50
Steel rails, rerolling	17.00 to 18.00
No. 1 low phos., heavy 0.04 and under	19.00 to 20.00
Car wheels	18.00 to 20.00
No. 1 railroad wrought	17.00 to 18.00
No. 1 yard wrought	15.50 to 16.00
No. 1 forge fire	11.50 to 12.00
Bundled skeleton	8.50 to 9.00
No. 1 busheling	13.50 to 14.00
No. 2 busheling	10.00 to 11.00
Turnings (short shoveling grade for blast furnace use)	8.00 to 8.50
Mixed borings and turnings (for blast furnace use)	7.00 to 8.00
Machine-shop turnings (for rolling mill and steel works use)	8.50 to 9.00
Heavy axle turnings (or equivalent)	11.00 to 12.00
Cast borings (for rolling mills)	9.00 to 9.50
Cast borings (for chemical plants)	10.50 to 11.50
No. 1 cast	18.00 to 19.00
Railroad grate bars	13.50 to 14.50
Stove plate (for steel plant use)	13.50 to 14.00
Railroad malleable	15.50 to 16.50
Wrought iron and soft steel pipes and tubes (new specifications)	12.00 to 13.00
Iron car axles	No market
Steel car axles	No market

Cost of Living Going Down

Wholesale prices declined 3 per cent during March, according to figures of the Bureau of Labor Statistics. The heaviest declines, from 4½ to 5 per cent, were registered in fuel and lighting materials, metals and metal products and building materials. Except for the group classed as farm products, the metals and metal products are now nearer the 1913 basis than any other, being only 39 per cent up. House-furnishings are far higher than anything else, with building materials and fuel and lighting also more than double 1913 levels.

Index Numbers of Wholesale Prices by Groups of Commodities
(1913 equals 100)

	1920	1921		Decline in One Year	Per Cent of the Advance
	March	Feb.	March	Per Cent	Over 1913
Farm products	239	129	125	47.7	82.0
Food, etc.	246	150	150	39.0	65.8
Cloths and clothing	356	198	192	46.1	64.1
Fuel and lighting	192	218	207	Increase	
Metals and metal products	192	146	139	27.6	57.6
Building materials	325	222	212	34.8	50.2
Chemicals & drugs	205	178	171	16.6	32.4
House-furn. goods	329	277	275	16.4	23.6
Miscellaneous	230	180	167	27.4	48.5
All commodities	253	167	162	36.0	59.5

Mellon Institute Industrial Fellowships

Founded by Dr. Robert Kennedy Duncan in 1906, and established on a permanent financial basis in 1913 by Andrew W. Mellon, now Secretary of the Treasury, this institution furnishes practical co-operation between science and industry. There are now 48 industrial fellowships, held by 83 fellows engaged in industrial research work. Thirty-six reports of researches were published during 1920, as well as two books and 48 other scientific papers. Seventeen United States patents were taken out, as compared with 37 in 1919. The work of the Institute is described in a 20-page pamphlet.

American Equipment for Spanish Iron and Steel Works

Large shipments of machinery have been made from this country for the iron and steel works now in process of construction by the Compania Siderurgica del Mediterraneo at Sagunto, Spain, under the designs of Frank C. Roberts & Co., Philadelphia, engineers for the company. These shipments consisted of the charging machines, cranes, ladles, hot metal mixer, stock transfer cars, electric hoists, pig casting machine, coke quenching car, electric locomotive, feed water heaters, the complete pumping equipment, steam and water piping and various other items of machinery and equipment. A plan of the new works at Sagunto and an outline description were given in THE IRON AGE of Jan. 3, 1918. Sota & Aznar, the well known iron ore firm, organized the Sagunto enterprise for the utilization of the iron ore deposits of the Sierra Menera Mountains.

American Pig Iron Association

The regular monthly meeting of the American Pig Iron Association, which was held at William Penn Hotel, Pittsburgh, April 14, was unusually largely attended. Discussion centered chiefly about the business situation and its bearing on the future demand for pig iron. Opinions as to when a recovery would set in varied widely, but the more common expression was that the present year hardly would see anything more than a partial approach to normal conditions. While it was brought out that stocks of iron in consumers' hands were negligible if the melt was normal, it also was asserted that consumers, on the present basis of consumption, could remain out of the market for some little time. Labor and operating conditions also were discussed, and in the afternoon the meeting adjourned to the Allegheny Country Club.

UNION LABOR PLANS

Campaign of Education Announced—President Tighe of Amalgamated Leads the Movement

WASHINGTON, April 19.—Apparently recognizing the serious error made through the radical leadership of the abortive steel strike of 1919, so-called conservatives have announced plans for inaugurating an "educational campaign" to unionize the iron and steel industry. Leading the movement is M. H. Tighe, International president of the Amalgamated Association of Iron, Steel and Tin Workers, who is chairman of the Executive Council of the International organizations in the steel industry which are affiliated with the American Federation of Labor.

Announcement of plans for the institution of a new drive to unionize the trade was made last Friday evening at Washington, after a two-day meeting of the council at the American Federation of Labor headquarters here. The movement, it was stated, will begin June 19. Evidently organized labor still is doubtful as to the success of its efforts and as to the timeliness of the campaign, because it was specifically stated that the action was decided upon "notwithstanding unemployment and depressed industrial conditions."

The campaign is to begin with a meeting of the Executive Council at Denver, Col., when, it was declared, the organization program and the location of the steel committees' national headquarters will be definitely announced. But it has been practically decided, it is stated, to fix Chicago as the national headquarters, with branch offices at various other so-called strategic points throughout the country.

Whatever may be the actual underlying motive of unorganized labor to resume its campaign at this particular time, it is claimed that one chief reason is the fear that the Steel Corporation, as well as independent steel companies, is about to extend the 8-hr. day policy. This, it is pointed out, would be construed as an anticipatory action on the part of employers and would largely neutralize the efforts of organized labor itself to fix a uniform 8-hr. day in the industry.

Mr. Tighe, commenting on the proposed plan, made it plain that he was aware of the fact that the present was not a timely period for starting the campaign.

"Conditions are not very favorable," he added. "Thousands of steel workers are out of employment and the future prospects are not very encouraging. We are fully cognizant of the situation which we are facing and for this reason are taking our time in getting the new movement under way. We are going to perfect all arrangements before going into action. We feel that this is the opportune time, however, to launch a union educational drive among the thousands of unemployed steel workers."

He further said that the organization to be undertaken by the council is to be of a permanent character, stating that the last steel campaign was really an initiatory movement "to feel out the attitude of the men toward the unions." He expressed confidence that the steel workers want to be unionized and that the committee proposes to give them what they want.

Secretary William Hannon of the council said that it did not concern itself with reports that the Steel Corporation is going to reduce wages or put into effect the 8-hr. day, although other expressions were heard indicating that the council was very much concerned over these questions. Mr. Hannon added that, "We feel that Mr. Gary and his associates have definite plans for the future of the workers and will put them into effect when the time comes, regardless of anything we can do at the present time."

According to Mr. Hannon, the prospective national headquarters of the council, Chicago, is a strategic steel center and organized labor there is backing the new campaign with all its resources. Because of this, and other advantages, he said, Chicago is considered as the logical location for headquarters. It is planned to open a large branch office at Pittsburgh, and organization offices in Cleveland, Buffalo, Pueblo, Col., and Bethlehem and Steelton, Pa.

According to Mr. Hannon, no definite plans have been made for financing the new campaign. Approximately $70,000, he said, now is on hand and will be sufficient to begin with and it will be inaugurated at the same time that the national convention of the American Federation of Labor is in session in Denver, the expectation being that the federation as a whole will thus give special aid to the new campaign. It is believed that the Amalgamated Association, at its convention in Hamilton, Ont., on May 3, will adopt resolutions also designed to give aid to the steel campaign. The association, at its meeting in Hamilton, will readjust sliding wage scale agreements.

Practical Profit Sharing

Controlled by an operating committee of six men from the office and six from the shop, a scheme of sharing with employees the yearly profits accruing from the company's operations has been put into force by the Lancaster Iron Works, Lancaster, Pa. Each man is given a basic rating for the distribution of profits in accordance with his value to the company. His interest or share in the profits continues so long as he remains in the company's employ.

For the purpose of paying dividends to the individual men each is credited with a hypothetical stock ownership of $10,000 or more. That is, he has a working interest in the company to that amount. At the close of the year or dividend period the same rate of dividends is paid upon the working interest of the individual as is paid upon the actual stock ownership of the owners of the company. If this dividend chances to be 10 per cent on the capital stock paid in, the man gets 10 per cent upon his working interest. This is paid to him in cash—not in scrip or any other form of deferment.

While questions of policy and finance remain with the owners of the capital stock of the company, all questions relating to the operation of the plant come before the operating committee of 12 men for settlement. This makes for community of interest, because this committee is kept fully informed of what is going on in the office, and the reasons for every move made by the management. Information thus imparted to superintendents and foremen makes its way to the men in the shop and misunderstandings rarely occur.

As the secretary and treasurer of the company writes, "We do not have strikes and do not intend to have them. We feel that a strike is as much a reflection upon the management as it is upon the men. We pride ourselves on the fact that there is no argument or disagreement which can arise which we cannot discuss and straighten out in a friendly way with our men."

Boston Building Trades Strike

For the first time in 12 weeks, or since Jan. 19, when the men walked out on work under construction, the Boston building strike situation has taken a decisive turn. The Building Trades Employers' Association has served notice on the public that no member shall make any agreement with any labor union in the building trades during the remainder of 1921, and no agreement will ever be entered into that penalizes men that go back to work. Although not an out-and-out declaration for the open shop, the stand taken by the association virtually amounts to as much.

The association's action was taken only after the Massachusetts State Board of Conciliation and Arbitration exhausted all means of getting certain crafts to agree to return to work at $1 per hr. while wages and working agreements are arbitrated. The Building Trades Employers' Association in making its announcement assured workmen protection who elected to return to work at 90c. per hr. for skilled help. That protection has been given by the police and workmen have availed themselves of the opportunity to resume activities. On all large Boston construction jobs the average increase in skilled workmen placed the first three days following the association's announcement was about 200 to 250 men per job. Since then additional skilled workmen have been taken on.

In other sections of New England where labor has

resisted a reduction in wages, construction remains at a standstill, with a few exceptions. At Athol, Mass., for instance, bricklayers have returned to work at 80c. per hr., plasterers 80c., painters 50c. to 65c., carpenters 72c., and laborers, hod carriers, mortar mixers, etc., 40c. to 50c.

Workmen in the Woburn, Mass., district have returned to work at a temporary basic rate of 95c. per hr., pending arbitration before a special board to be selected later. Metal working crafts in various sections of Connecticut are on strike against a 20 per cent reduction in wages.

National Agreements Abrogated by Rail Board

CHICAGO, April 18.—The United States Railroad Labor Board announced on April 14 the abrogation of the national agreements, effective July 1, on the condition that the individual railroads and their employees immediately confer to negotiate new rules and working agreements. The decision of the board is a victory for the rail lines, which have insistently claimed the right to negotiate separately with their own men. More than two hundred Class 1 railroads, over 2,000,000 employees and 19 unions are affected by the action of the labor board. According to the carriers, the elimination of the burdensome conditions embodied in the national agreements will mean an annual saving of $400,000,000, not counting reductions in expenses which may result from future wage adjustments.

The railroad unions find solace in the fact that the negotiations between the carriers and their employees are, according to the decision of the board, to be governed by 16 general principles, among them, the basic eight-hour day, recognition of the unions, recognition of the right of the organized majority to represent any craft, the obligation of both the railroads and their employees to render adequate service at economical cost, the right of railroad managements to preserve discipline by proper rules, the right of an employee to a fair hearing before being disciplined, his reinstatement if vindicated, and the giving of proper notice to employees before any decision is put into effect which adversely affects either their wages or working conditions.

Thoughts on Wage Reductions

The Associated Employers of Indianapolis, Inc., is arranging for the distribution and publication in newspapers of a series of advertisements giving a synopsis of basic thoughts on wage reduction. Some of the subjects of these advertisement are:

It's Not Wages You Want, But What Wages Will Buy
What Are Normal Wages—or Prices?
It's What You Pay, Not What You Earn, That Counts.
Labor Has Its Price.

Detailed information as to the distribution of the advertisements can be obtained by addressing A. J. Allen, secretary, Associated Employers of Indianapolis, Inc.

Unemployment in France

WASHINGTON, April 19.—According to Monsieur Laurent, secretary of the Confédération Générale du Travail (General Confederation of Labor), there is a great deal less unemployment in France, proportionately, than there is in the United States or in England, and it is of a much less serious character. A report on the labor situation received by the Bureau of Foreign and Domestic Commerce from Eugene A. Masuret, clerk to the American trade commissioner in Paris, says that Mr. Laurent estimates the number of unemployed workers in the various trades throughout France at between 120,000 and 150,000. Unemployment in the metallurgical trades affects mostly the laborers and the semi-skilled workers. Many men were taken on in this industry during the war from other trades, and, although not efficient, did not return to their former trades. The skilled worker is generally retained, unless, of course, the plant is completely shut down.

In the Field of Labor

Reflecting the reduced operating rate of iron and steel plants in the Mahoning Valley, and the general 20 per cent wage reduction, is the wage distribution of $4,382,548 for March, actually covering the period from Feb. 20 to March 20. This disbursement is an actual reduction of $1,607,196 from the February payroll and is $3,369,387 less than the distribution in March, 1920. Employment in the Valley is at the rate of 40 per cent.

Consul General Sammons at Melbourne, Australia, reports that an extensive demand for machinery has arisen in Australia with the development of the commonwealth industries. During the last few months machinery has been imported in unprecedented quantities. The orders placed for American machinery are declared to have been exceedingly heavy and further orders are likely to follow, as essential conditions are being met by American manufacturers. Special inquiries have been made for planing machines (iron), brass finishers' lathes, shaping machines, radial drills, etc.

A continued increase in the number of men employed in Detroit is shown by the report of the Employers' Association of Detroit for the week ending April 12. The association's 79 firms increased their working forces during the week by 5126 men and are now employing 100,347 men. Only 19 of the firms are working on reduced schedules, but these employ only 4723 men. The plants on reduced schedules are averaging 37 hours a week.

Employees of various planing mills in Evansville, Ind., have returned to work at 80c. an hour as compared to the former scale of $1 an hour. The plants are open shop.

The contraction in New England railroad shop forces continues. The Boston & Albany Railroad's West Springfield, Mass., locomotive shop is closed, throwing 500 out of employment. At the New York, New Haven & Hartford Railroad's Readville, Mass., shops 200, including office help, are employed, as against 2400, the normal number of employees.

More than 100 New Haven, Conn., concerns, including those industries allied with the iron and steel, have become members of an Open Shop Council of that city.

A reduction averaging 14 per cent in wages of employees working by the hour and by the piece is announced by the Norton Co., Worcester, Mass., grinding machinery and abrasives. The wheel division has gone on a 40-hr. per week, as against a 24-hr. basis. The company employs 2000, contrasted with 4000, the normal working force.

That fewer men lost their lives in metal-mine accidents in this country during 1919 than in any previous year for which statistics of accidents have been compiled is shown in a report just issued by the United States Bureau of Mines. The number of men killed was 468, as compared with 646 killed in 1918. The number of men injured was 31,506, as compared with 42,915 injured in 1918.

The fatality rate was the lowest on record for the metal mining industry in the United States, and the injury rate was lower than any year since 1914.

The Worn Machinery & Engineering Co., New York, has just finished and shipped to the U. S. Naval Ordnance Plant, South Charleston, W. Va., four mechanisms for operating vertical gun tube furnace covers. The machinery is very heavy and was especially designed for the purpose, in connection with the gun tube and annealing furnaces.

Sixteen of the 30 hot mills at the Farrell, Pa., works of the American Sheet & Tin Plate Co. will resume operations at midnight, May 2. The mills will work 16 turns on a six-day-a-week schedule. Other departments of the plant, which has been suspended for about 12 days, will resume at the same time.

Trade and Office Changes

The Brown Hoisting Machinery Co., Cleveland, announces the opening of a Southern office, to be located at 530 Whitney-Central Building, New Orleans. The States of Texas, Louisiana, Mississippi, Alabama, Georgia and Florida will be covered from this office. Charles H. White, manager of the new office, has been with the Brownhoist company for a number of years, and is an experienced sales engineer on all types of Brownhoist products, including locomotive cranes, buckets, electric hoists, trolleys and a wide range of cranes and hoists.

C. H. WHITE

The Victor Tool Co., Inc., manufacturer of collapsible taps, etc., Waynesboro, Pa., has opened a branch office in New York at 131 West Thirty-ninth Street, with F. W. Curtis, manager, and Warren J. Boe, sales engineer. All matters for New York territory pertaining to its entire line of collapsible taps, self opening die heads and floating reamer holders will be handled from this office.

The Fosdick Machine Tool Co., Cincinnati, maker of heavy duty radial drills and upright drills, has taken over all patents, drawings, patterns, jigs and fixtures covering the line of Pierle quick change high speed ball bearing sensitive drill presses, from the R. K. Le Blond Machine Tool Co. This acquisition by the Fosdick Machine Tool Co. will give it a complete line of drilling machinery.

The Technical Service Co., Colonial Building, Allentown, Pa., has been organized in the field of chemistry and metallurgy to perform consulting, inspection, analyses, estimates and give sales service in technical products and equipment.

The new plant of the Van Dyke Silica Brick Co., at Van Dyke station, on the main line of the Pennsylvania Railroad, Juniata County, Pa., is now in operation. Officers are: Henry Y. Haws, president; Ralph L. Swank, vice-president; Frank D. Phillips, secretary-treasurer, and William H. Haws, general manager. The principal office is at Johnstown, Pa., with sales offices at 313 Penfield Building, Philadelphia, and 216 East General Robinson Street, Pittsburgh.

The Machinery Utilities Co., Inc., has changed its name and address to read as follows: Machinery Utilities Co., 501 Fifth Avenue, at Forty-second Street, New York.

The E. L. Essley Machinery Co., 551-557 Washington Boulevard, Chicago, has become exclusive selling agent in Chicago territory for Modern plain and universal grinding machines of the Modern Tool Co. The Modern Tool Co. will have its own grinding expert at the Essley headquarters.

Elijah H. Owen and C. R. Seabrook, as Owen & Seabrook, industrial engineers, have opened an office in Detroit. Mr. Owen formerly lived in Hartford, Conn.

The Connecticut Electric Steel Co., Flatbush Avenue, Hartford, Conn., has taken over the rights to manufacture and sell in its territory an alloy under the name of Silcrome, used in the manufacture of carburizing boxes, lead pots, pyrometer tabs, etc., which was developed by the Ludlum Steel Co., Watervliet, N. Y.

The Tuxis Metal Co., Meriden, Conn., heavy metals, has bought a warehouse and considerable property on North Colony Street, formerly the property of Mrs. W. G. Warnock. A. J. White is president.

The offices of E. R. Little, industrial engineer, have been moved from the Dime Savings Bank Building to 1918-20 Ford Building, Detroit.

The American Autometal Co., 177 Dwight Street, Springfield, Mass., has removed to 35 East Court Street, into larger quarters.

The W. T. Dunn Co., 10 High Street, Boston, has been appointed New England Sales agent for B. M. Jones & Co., Inc., 192 Chambers Street, New York, importer of Mushet and Titanic tool steels, and Taylor's best Yorkshire iron. W. T. Dunn, a member of the firm, was for a number of years general manager of the International High Speed Steel Co., Rockaway, N. J.

The Brier Hill Steel Co. has moved its Cleveland office from the Kirby Building to rooms 1038 to 1040, Hanna Building.

The David J. Joseph Co., Cincinnati, which has been operating in St. Louis, instead of the Joseph Joseph & Brothers Co., which retired from the old-material business with the fifirst of the year, has acquired a yard, already equipped with the necessary cutting and handling machinery, and will operate it as part of its St. Louis branch, which is in charge of Irvin V. Amerman, who was the representative of the Joseph Joseph & Brothers Co. up to the time of its retirement from business. The company, while not technically the successor of the Joseph Joseph & Brothers Co., has taken over all the business of the old company and is also extending itself in new directions. The company has yards at several other points besides St. Louis, with local managers at all the branches.

The Pittsburgh Steel Foundry has moved its general offices from the House Building to the Empire Building, Pittsburgh.

Effective April 15, the address of the Victor Saw Works, Inc., will be Middletown, N. Y., instead of Springfield, Mass.

On or before May 1, the Consolidated Tool Works, Inc., will move to its new quarters at 296 Broadway, New York, where it will have general offices and New York warehouse under one roof.

The Keller Pneumatic Tool Co. will remove its Chicago branch to larger and more up-to-date salesrooms and service station. After May 1 this branch will be located on the main floor in the Transportation Building, 624 South Dearborn Street, Chicago, where a complete stock of tools and parts will be maintained. J. C. Campbell, district manager, will be in charge.

The Landis Tool Co., Waynesboro, Pa., grinding and boring machines, has removed its New York sales office, M. G. Dunbar, manager, from 50 Church Street to 51 Chambers Street.

The American Arch Co., Inc., has moved its general offices to the National City Building, 17 East Forty-second Street, New York.

The Superheater Co. will move its general offices from 30 Church Street to 17 East Forty-second Street, New York, on May 1.

The Sundh Engineering & Machine Co. manufacturer of brass and steel strip mill finishing machinery, has removed its main office to the factory at 1105 Frankford Avenue, Philadelphia. The former main office at the Otis Building, 559 West Twenty-sixth Street, New York, will be continued as a branch.

The address of the Fastfeed Drill & Tool Corporation, 21 Murray Street, New York, has been changed to Clinton and Oakwood streets, Toledo, Ohio.

The Air Reduction Sales Co., manufacturer of oxygen, acetylene and welding and cutting apparatus, will move its executive offices on May 1 from 120 Broadway and 160 Fifth Avenue to 342 Madison Avenue, New York. The New York district office, after May 1, will be located at the Airco factory, 191 Pacific Avenue, Jersey City, N. J.

The Motor Wheel Corporation, Lansing, Mich., has opened an Eastern office at 33 West Forty-second Street, New York, in charge of Thomas J. Wetzel, who will represent all of the Motor Wheel products, including the Gier Tuarc steel passenger car wheel.

The Lincoln Steel Co., 112-118 North May Street, Chicago, has been formed to handle for prompt shipment from Chicago warehouse stock, cold drawn screw stock and shafting, cold rolled strip steel, sheet steel, bright coke and charcoal tinplate, roofing tin and long terne plate. Harry G. Masten is president and Joseph V. Arnhorst, vice-president.

The Border City Tool Co., Ltd., Windsor, Ont., has been incorporated with a capital stock of $40,000 by John W. Adams, Robert Armstrong, Robert M. Scott and others to manufacture machinery, tools, etc.

The Molby Boiler Co., Inc., 101 Park Avenue, New York, has been purchased by G. A. Harder, president Iron Products Corporation, 90 West Street, and will be operated in conjunction with the latter company. Mr. Harder will be president of the Molby company, and Stephen Barker, secretary and treasurer.

IRON AND INDUSTRIAL STOCKS

Labor Market Developments Are Reflected in Quotations for Securities

Judging from the recent course of security values, the labor question is the most important confronting the world to-day. The announcement by the United States Steel Corporation of a reduction in prices on steel products had comparatively little influence on securities in general. Indications of easier money conditions in important banking districts, especially in the East, also failed to stimulate investment buying of stocks, as did further recovery in foreign exchange rates. Continued liquidation in cotton and grain induced little additional selling of securities. On the other hand, the decision by the Railroad Labor Board abrogating agreements between labor and the railroads in this country, effective July 1, and the split in England's labor ranks insofar as applied to the proposed coal strike, have been followed by a more definite upswing in security values than witnessed before in months. Book values of a large number of stocks have recovered $2 to $5 per share, and in numerous instances even more. The advance has been a general one and not confined to any one class of securities.

Rails naturally have held the center of the stage in the investment world, although buying of steel issues and closely allied stocks is significant, especially in view of further reductions made in quotations for certain mill products. Railroad equipment companies are in need of further orders if plants are to continue to operate beyond June 30, and yet prices for such stocks are higher. The market for copper stocks is stimulated by a better consumption of the red metal, especially in Europe. The recovery in security values has been more pronounced in those stocks traded in on the large exchanges, the over-the-counter quotation movement naturally being more conservative due to the character of the buying.

The range of prices on active iron and industrial stocks from Saturday of last week to Monday of this week was as follows:

Allis-Chalm. com.	35¾- 37¼	Int. Har. com...	85¼- 87¾
Allis-Chalm. pf..	77 - 78	Lackawanna Stl.	47½- 52⅛
Am. Can. com...	28¼- 29¾	Midvale Stl.....	25⅝- 28¼
Am. Can. pf.....	.. - 83	Nat.-Acme	23¾- 24¾
Am. C. & F. com.	121 -123⅛	Nat. E. & S. com.	58½- 59
Am. C. & F. pf..	110¼-112	N. Y. Air Brake.	72½- 78
Am. Loco. com..	83½- 86	Nova Scotia Stl..	.. - 35¾
Am. Loco. pf....	.. -106¼	Pressed Stl. com.	84⅛- 86
Am. Rad. com...	69¾- 70½	Pressed Stl. pf..	88 - 88½
Am. Stl. F. com.	28⅝- 29⅞	Ry. Stl. Spg. com.	86 - 87⅞
Bald. Loco. com.	83⅝- 88	Replogle Stl.....	.. - 26
Bald. Loco. pf...	99½-100	Republic com....	58⅛- 65½
Beth. Stl. com...	51 - 53	Republic pf.....	90 - 91½
Beth. Stl. Cl. B..	53⅜- 56⅝	Sloss com.....	38 - 43½
Beth. Stl. 8% pf.	104 -105	Superior Stl.....	40 - 44
Chi. Pneu. Tool..	62 - 63¼	Un. Alloy Stl....	30½- 31½
Colo. Fuel	28½- 29	U. S. Pipe com..	16¾- 17⅜
Cru. Stl. com....	76¼- 85⅜	U. S. Stl. com...	79¼- 82
Cru. Stl. pf.....	84¼- 86	U. S. Stl. pf.....	109½-110½
Gen. Electric....	133¾-137¾	Vanadium Stl...	28⅝- 30
Gt. No. Ore Cert.	28⅞- 29⅛	Westingh. Elec..	46½- 47½
Gulf States Stl..	26¼- 30		

Lackawanna Report More Favorable Than in 1920

A profit for the first quarter of 1921 of $8,735, contrasted to a deficit of $449,720 for the corresponding quarter of 1920, is shown in the last financial report of the Lackawanna Steel Co. Net earnings, after taxes and ordinary expenses, were $667,695 the current quarter, compared with $336,910 the first quarter of 1920. Interest on bonds and other obligations amounted to $260,037; depreciation, $345,361; reserve, $53,561.

Reorganization of Standard Parts Co.

A permanent financing plan for the Standard Parts Co., Cleveland, was approved April 13 by a meeting of the company's creditors. The plan, which had already been approved by the reorganization, stockholders' and creditors' committees, contemplates a new company to take over the Standard Parts properties. This company will issue $6,500,000 first mortgage 8 per cent notes and 100,000 shares no par common stock. These securities will be accepted by the creditors to cancel in full the outstanding indebtedness, amounting to about $10,000,000. Stockholders in the old company will be allowed to buy the notes at par and also to buy the no par common stock at about $35 per share, privilege of payment being extended over a period of nine months. The company's assets as a going concern are held at approximately $25,000,000, as against the $10,000,000 of indebtedness.

It is planned to accomplish this reorganization as quickly as the necessary legal details incident to the receivership can be worked out. The present management will be continued, operating the following plants: The Perfection Spring Co., Cleveland; Pontiac Spring Co., Pontiac, Mich.; Standard Welding Co., Cleveland; Bock Bearing Co., Toledo, Ohio; Eaton Axle Co., Cleveland; Canton Forge Co., Canton, Ohio.

The receivers' report shows that the company is no longer operating at a loss. Business now amounts to about $1,000,000 a month.

Republic's Production Costs Abnormally High

At the annual stockholders' meeting of the Republic Iron & Steel Co. it was stated officially that the average production for the quarter, ended March 31, was about 25 per cent of capacity, and, as a result of this small output, the cost of production was abnormally high, notwithstanding general wage reductions averaging about 20 per cent. Prices were 33 per cent lower than those for the corresponding period last year. There will be no new financing by the company during the current year. There are approximately 8500 shareholders, a new high record.

Industrial Finances

The Milwaukee Steel Foundry Co., 127 South Water Street, Milwaukee, has amended its corporate articles to provide for an increase in capitalization to $250,000, consisting of $100,000 of 8 per cent cumulative preferred and $150,000 of common shares. The new issue is made to finance extensions, general operations and provide more adequate working funds. Burton C. Wait is president.

The Truscon Steel Co., Youngstown, Ohio, has declared a common stock dividend of 50 per cent payable April 25 to holders of record April 5. There is outstanding $1,782,620 of common stock and the dividend will mean, therefore, the distribution of an additional $891,310 of common among shareholders. On Feb. 21 the company increased its common authorization from $2,000,000 to $4,000,000. There is consequently in excess of $2,000,000 of treasury common stock from which to pay the dividend. Directors have also declared the regular cash dividend of 4 per cent on common, payable April 15 to stock of record April 5.

The annual report of the Valley Mould & Iron Corporation shows net income, after allowing for depreciation, interest and taxes, of $304,188 and after dividends on preferred stock, $164,188 for surplus. During 1920 there were retired $20,000 first mortgage and $100,000 serial gold bonds. Net working assets at the end of the year were reported as $2,016,579. Capital stock consists of $2,000,000 7 per cent cumulative preferred and 100,000 shares no par value common.

The Constant Motor Service Corporation, 443 Ovington Avenue, Brooklyn, is completing plans for a one-story service works and repair building, 164 x 390 ft., at Sixty-sixth Street and Fifth Avenue, Brooklyn, to cost about $100,000. Arthur D. Constant is president.

Joseph Friedman, Inc., New York, has been incorporated with a capital of $300,000 by M. and Joseph Friedman and J. H. Rosansky, 41 Park Row, to manufacture metalware.

The net 1920 sales of the Ohio Body & Blower Co. were $2,737,260. The cost of sales, including materials, labor and manufacturing expenses and depreciation amounted to $2,479,539. There was a manufacturing profit of $257,720. Offsetting this profit there was $487,623 selling, general and administrative expenses, leaving an operating loss of $229,902. With other charges deducted, the net loss for the year amounted to $397,338.

The regular quarterly dividend of 1¾ per cent on the outstanding preferred stock of the Taylor-Wharton Iron & Steel Co. for the three months ending March 31, 1921, has been declared.

Stockholders of the Standard Tank Car Co. will hold a meeting at Sharon, Pa., April 14, to vote upon the proposition of increasing the common stock from 100,000 shares, no par value, to 150,000 shares. An amendment to the charter of the company also will be voted upon.

The Standard Screw Co. earned net profits for the year, ended Dec. 31, 1920, after depreciation and Federal taxes of $1,744,331, equivalent to $48.42 a share on the capital stock of $3,500,000, compared to net profits of $900,704, or $34.04 a share on the $2,500,000 common stock in 1919.

Earnings for 1920 of the Sloss-Sheffield Steel & Iron Co. were equivalent to $14.24 per share on the common stock, against $16.25 of the previous year. The surplus, after all charges and Federal tax deduction, amounted to $1,893,779. Directors deferred action on the common stock dividend.

The Pressed Steel Car Co. has filed a certificate with the New Jersey secretary of state, increasing its capital stock from $25,000,000 to $62,000,000, or 375,000 shares, par $100.

The Packard Motor Car Co. last week sold $10,000,000 8 per cent 10-year bonds, dated April 15 and maturing in 1931.

NORTHERN FRANCE IMPROVES

Belgian Labor Invited to Return to Mills—Other Districts Curtail

(Special Correspondence)

LONGWY, FRANCE, April 1.—No improvement has taken place in the metal industry. A few proposals and tenders have been received from several Balkan countries, such as Bulgaria, which invited tenders for large quantities of fishplates, bolts, nuts and tie rods for the state railroads. Roumania has also invited tenders for locomotives. Germany, however, submitted extremely low figures preventing French manufacturers from securing even a modest share of the business.

Northern France Shows Improvement

The crisis shows fluctuations in different parts of the country. Some improvement is noted in numerous works in the north of France, while elsewhere the situation has grown worse. Belgian labor formerly in the service of French concerns in Ardennes and the Département du Nord has been invited to return to the French works on the Belgian border. In the Loire, Tarn and Doubs, no improvement is reported. On the contrary, a large metal concern in the vicinity of Longwy has blown out three furnaces—possibly four —for lack of orders. Numerous works have eliminated the Saturday shift and several concerns have adopted the 7-hr. day. Reductions in pay-rolls have been made by stopping the indemnity or bonus for the high cost of living.

As a result of the reduction in the price of coke, the various pools and syndicates which were formed for selling in France and abroad have again come into the foreground. An average price for French steel is from 48 to 50 fr. delivered on trucks. Open-hearth steel is beginning to compete with Bessemer steel, as the former is cheaper. The price of scrap and fuel has decreased to some extent during the past few days.

Bars at 1.45c. per lb. Predicted

The general opinion in Lorraine and in the district of Longwy, is that many mills in France and Alsace are forced to replenish their stocks which explains the recent heavy inquiry for raw materials. While the price of rolled steel bars it is believed will eventually settle to about 45 fr. base, per 100 kilos (1.45c. per lb. base), this price may be lowered by Belgian and Luxemburg metal concerns.

Current quotations on bars are as follows, with a margin of one or two francs per 100 kilos, according to the size of the order: Merchant iron bars, 46 to 50 fr. per 100 kilos ($1.48 to $1.60 per 100 lb.); mild steel bars, 47 to 50 fr. per 100 kilos ($1.52 to $1.61 per 100 lb.); rolled hoops, 56 to 59 fr. per 100 kilos ($1.81 to $1.91 per 100 lb.).

Another significant fact is that German plants will not continue their struggle to compete with France. Even without the 50 per cent duty on German products, the Rhenish and Westphalian furnaces found it difficult to compete with Belgian and Luxemburg. It is generally believed that if the German iron and steel producers did not receive bonuses and rebates from the Government they could not meet the Belgian or French competition with equality of exchange. Consequently the German producers are not anxious to see an improvement in the value of the mark, as with their present high costs, high wages and taxation and indirect rebates, an improvement of the mark would be a real blow to German industry and almost completely stop exports.

Equipping of Railroads a Problem

The problem of railroad material remains of unquestionable importance. Army officers insist that the railroad lines must be better equipped than ever in order to cope with any emergency. The assumption of the French government that France could supply all her railroad material and locomotives without the help of foreign countries aroused some interest in industrial circles of Europe, but this optimistic opinion is not generally shared. It remains to be seen if one company in France can produce hundreds of locomotives within twelve months, as was stated in a circular letter recently distributed among prospective buyers.

Scrap in France and Belgium

There have been large transactions recently in scrap but it is doubtful if many buyers will attend the public sales to be held in various markets of Continental Europe. Large purchases at low prices could be made by foreign users of scrap and the freight to foreign countries would be low as numerous steamers are lying idle in Antwerp and Rotterdam pending a revival, which is not yet in sight.

Public auctions of scrap will be held as follows: Bruges, 12,000 tons, chiefly shell refuse; Lorient, 25,000 tons from old battle ships. Dealers buying prices on heavy scrap, ready for furnace, in sizes of 20 x 45-in. are 15 to 16.50 fr. per 100 kilos and 10.50 fr. per 100 kilos for long lengths.

World's Zinc Output in 1920

Data on the world's output of zinc or spelter has recently been compiled by Rudolf Wolff & Co. and published in *Metal Bulletin*, London. They are as follows in tons:

	1913	1919	1920
Belgium	193,645	15,607	77,245
Germany.			
Silesia	167,507 }		
Rhineland and other parts.	109,544 }	88,722	94,241
France	63,412	18,000	19,822
United Kingdom	31,290	21,543	14,766
United Kingdom, refiners	27,008	7,822	7,585
Holland	23,958	none	2,000
Austria	20,736	4,000	....
Jugoslavia	....	....	1,800
Czecho-Slovakia	....	....	4,200
Poland	15,708	2,500	8,000
Spain	8,917	1,500	6,309
Scandinavia	9,600	6,578	14,385
European total	671,325	166,272	250,353
Australia	3,666	2,594	9,665
United States	308,549	433,470	413,000
Japan	....	22,000	8,000
Canada	....	11,160	17,857
World's total	983,540	635,496	698,875

Iron and Steel Output of Upper Silesia

In view of the recent plébescite in Upper Silesia and the fact that the Allied Commission have yet definitely to settle the fate of that province, the following statistics relative to the output of coal and iron products in Upper Silesia in 1913, and the proportion they bear to the total German output, have recently been published by the London *Iron and Coal Trades Review:*

	Production in Tons	Percentage of Total German Output
Coal	42,804,100	23.1
Iron ore	134,500	1.8
Coke	2,265,200	6.6
Briquettes	432,900	6.4
Pig iron	994,600	7.7
Castings	95,900	3.0
Rolled iron and steel products.	1,066,500	5.9

According to the statistics of the Upper Silesian Mining and Metallurgical Association, the production in Upper Silesia in the first half of 1920 included 15,419,600 tons of coal, 32,700 tons of iron ore, and 258,900 tons of pig iron, while the iron and steel foundries turned out 40,500 tons and the rolling mills 960,700 tons.

Will Discuss Foreign Trade

At the ninth annual meeting of the Chamber of Commerce of the United States in Atlantic City, April 27-29, foreign trade subjects will occupy a very prominent part in the program.

The preliminary outline of subjects, already sent you, indicates the emphasis which the annual meeting will give to matters of ocean shipping, foreign financing, international trade relations, tariff policy, and the foreign trade promotion activities of American commercial organizations and of the International Chamber of Commerce.

Machinery Markets and News of the Works

IMPROVEMENT SLOW

Machine-Tool Buying at Low Ebb in All Markets

Practically No Business Coming from Railroads or Large Industrial Plants

The machine-tool trade is marking time, there being no definite trend toward improvement, despite the increase in the number of inquiries a few weeks ago. Most of the business then in prospect is not being closed. With some sellers April business will not show up so well as that of March.

Though the rate of operations among automobile plants has steadily increased, the average now being 50 per cent or more, there is nothing yet to indicate that automobile manufacturers will be large buyers of shop equipment; in fact, the expectation is that there will be little machine-tool buying from this source this year.

Such improvements as is noted by some manufacturers of tools is due largely to the reinstatement of orders which were held up some months ago. These orders can frequently be filled from stocks on hand.

New York

NEW YORK, April 19.

Developments in the local machine-tool market are few and unimportant. There is very little inquiry and the few orders placed are mostly for single machines and come from the smaller manufacturers.

Some export business is in prospect. A Mexican oil company is in the market for a few repair shop tools and an oil company which will undertake new development work in Venezuela may soon be in the market for 20 or 25 machines. Other current export inquiries come mainly from the Far East.

R. S. Stokvis & Son, 17 Battery Place, New York, have shipped the following machines to customers abroad: 35 Lodge & Shipley lathes, four Dreses radial drills, one King boring mill, one Niles-Bement-Pond car wheel lathe.

A number of good crane inquiries are in the market and buyers generally are showing more activity. There is a fair-sized inquiry from Japan issued through Japanese export houses. The R. W. Cameron Co., 28 South William Street, New York, is in the market for three 20-ton locomotive cranes for Australia. Archer & Baldwin, 14 Liberty Street, New York, have requested bids on a 20-ton and two smaller electric traveling cranes for a plant in New Jersey. The Batavia Car Works, Batavia, N. Y., is receiving bids on two 15-ton hand power cranes. The recent crane inquiry handled by the Dutilh, Smith McMillan Co., 50 Broad Street, New York, for electric cranes for a South American buyer received 15 bids submitted by German crane builders and only two American quotations. The Department of Plants and Structures, New York City, is considering plans for a $1,000 000 power house on Staten Island. An old inquiry by the Chapman Valve Co., Indian Orchard, Mass., for a 5-ton and a 2-ton overhead traveling crane has become active.

Among recent sales are: Philip T. King, 30 Church Street, New York, a second-hand, 15-ton, 8-wheel Browning locomotive crane with 1½-yd. clamshell bucket to the Canada Sugar Refineries, Montreal; New Jersey Foundry & Machine Co., a 1-ton, 15-ft. 6-in. span hand power crane to E. Corey & Co., Portland, Me.

The Perine Machinery Co., Inc., 209 First Avenue, South, Seattle, Wash., has an inquiry for nail making machinery for China. Specifications call for machines to produce 1-in., 1½-, 2-, 2½- and 3-in. nails of the countersunk checkered type. Catalogs and all information covering the manufacture of nails is also desired. Used machines in good condition would be considered.

The Easton Structural Steel Co., 51 East Forty-second Street, New York, organized with a capital of $100,000, has acquired property in the vicinity of Easton, Pa., for a new steel fabricating plant. It is proposed to commence construction at an early date and have the plant ready for service during the summer.

The Associated Automobile Accessories Co., New York, has been incorporated with a capital of $200,000 by S. A. Kleinberg, A. O. Herzbrun and S. Schwartzman, 220 West Forty-second Street, to manufacture automobile equipment and accessories.

The Ford Motor Co., Detroit, has awarded contract to the Troy Public Works Co., Troy, N. Y., for excavation for its new hydroelectric generating plant at Green Island, in connection with a new automobile and tractor works. The power plant will be 80 x 250 ft., with installation to comprise six 11,000-kw. generators and auxiliary operating machinery. Stone & Webster, 147 Milk Street, Boston, are the engineers.

The Bull's Eye Fire Extinguisher Corporation, New York, has been incorporated with an active capital of $120,000 by D. J. Turrill, R. Silger and J. A. Pareso, to manufacture fire extinguishers. It is represented by Merchant, Oleana & Merchant, 149 Broadway.

The Borough Council, Long Beach, N. Y., has commissioned Ophuls, Hill & McCreery, 112-14 West Forty-second Street, New York, consulting engineers, to prepare plans for its proposed new municipal electric power plant, estimated to cost about $135,000.

The Ever Ready Auto Jack Corporation, Brooklyn, has been incorporated with a capital of $50,000 by G. Capell, F. Hollings and G. Prall, to manufacture automobile jacks. It is represented by F. Ziegler, Jr., 277 Broadway.

The Safety Service Corporation, New York, has been incorporated with an active capital of $30,000 by E. B. Day, C. L. Embury and S. K. Ferris, to manufacture railroad safety and other equipment. It is represented by W. S. Newhouse, 37 Liberty Street.

The Scottish Tire & Rubber Co., New York, has been incorporated with a capital of $200,000 by J. J. Graham, D. C. McHarg and W. J. Gillespie, to manufacture automobile tires and rubber goods. Wells & Moore, 132 West Forty-second Street, represent the company.

The Victor Page Motors Corporation, 309 Lafayette Street, New York, recently organized with a capital of $5,000,000, will establish a plant at Farmingdale, L. I., for the manufacture of a four-cylinder, air-cooled motor. Victor W. Page is president.

The Dobson Mfg. Co., New York, has been incorporated with a capital of $150,000 by G. Dobson, L. Mordano and J. J. Hanrahan, 34 Pine Street, to manufacture machinery and parts.

The New York Screw Machine Products Co., Brooklyn, has leased the first floor of the factory at 75-77 Thirteenth Street, owned by the Montauk Paint Mfg. Co., for a new plant.

The Singer Sewing Machine Co., 149 Broadway, New York, has leased the building at 308-10 Livingston Street, now occupied by the Scranton & Lehigh Coal Co., for the establishment of a new works.

Joseph Friedman Metal Ware, Inc., New York, has been incorporated with a capital of $300,000 by Joseph Friedman, 79 Crosby Street, and associates, to manufacture nickel products and other metal goods.

The Sentry Lock Co., New York, has been incorporated with a capital of $100,000 by W. J. Filan, J. J. and M. C. Hays, to manufacture locks and locking devices. It is represented by J. S. Twaddell, 261 Broadway.

The J. Spaulding & Sons Co., 484 Broome Street, New York, manufacturer of fiber products, has awarded contract to the Lackawanna Bridge Co., Buffalo, for its new plant at Tonawanda, N. Y., consisting of one five-story structure and seven one-story buildings, estimated to cost in excess of $250,000 with machinery. George F. Hardy, 309 Broadway, New York, is architect and engineer.

Fire, April 9, destroyed the plant of the New Jersey Motor Sales Co., Keyport, N. J., with loss estimated at

$50,000. It is a branch organization of the Aeromarine Co., Broadway, West Keyport, and the plant was used for the manufacture of marine engines used by the parent company in the production of seaplanes.

Arrangements have been made for the sale of the plant and equipment of the Glass Foundry Co., Washington Avenue, Milltown, N. J., now in receivership, consisting of machine shop, tinsmithing shop, glass-working department, as used for the production of unbreakable glass products. Paul J. Kernan is receiver.

The Pelletier Products Mfg. Co., Jersey City, N. J., has been incorporated with a capital of $500,000 to manufacture automobile parts and equipment. It is represented by Alfred F. McCabe, 15 Exchange Place.

The Public Service Gas Co., Public Service Terminal, Newark, has leased a portion of the building at 365-71 Ogden Street, 80 x 100 ft., for the establishment of a new gas meter repair and maintenance shop, to include parts manufacture, etc.

The Kandle Head Rest Co., Mulberry and Oliver streets, Newark, manufacturer of metal attachments for chair head rests, has purchased the building at 260 Mulberry Street, for a new plant. The company has outgrown its quarters and will increase production materially. The present plant will be removed to the new site.

The Newark Order Radiator Works, 79 Crane Street, Newark, has filed notice of organization to manufacture automobile radiators and operate a general repair works. I. Kabinoff, 79 Clay Street, heads the company.

The Federal Snap Fastener Co., Newark, has been organized by David Weinstein, 50 East Seventy-ninth Street, New York, and associates to manufacture metal specialties.

The Gluck Automotive Supply Co., Mt. Holly, N. J., has been incorporated with a capital of $50,000 by Berhard G. Gluck, 12 Mill Street, and associates, to manufacture automobile equipment and supplies.

New England

BOSTON, April 18.

The largest transaction in the local machine-tool market the past week was a sale of approximately 40 used tools, including radial drills, engine lathes, planers, milling machines, boring mills and drill presses. A Massachusetts manufacturer was the seller and a local dealer the buyer. No details as to prices are given. The general market continues quiet, the few sales confined mostly to single machines. No price changes are reported, but instances are cited where extended credits have been given. The Bureau of Fisheries, Woods Hole, Mass., purchased a new 16-in. x 10-ft. engine lathe and a 16-in. shaper, having previously taken a used 24-in. drill press. A Lowell, Mass., public school bought two new 16-in. x 6-ft. lathes; the initial inquiry was for five lathes.

Although new inquiries are not numerous, and those interests with inquiries out not inclined to close, a more hopeful undercurrent is noted in the machine-tool market. Developments in the local building strike are generally believed constructive.

Buying of small tools is spotty. The demand for cutters is limited, while that for reamers is more active, especially from automobile accessory manufacturers. Paving stone quarries are buying pneumatic tools, but the market otherwise is quiet.

According to present plans, the Romer Motor Corporation, Boston, which recently purchased property in Danvers, Mass., will erect a plant for assembling purposes.

William Stewart and Henry L. Washburn, Torrington, and Charles F. Conlon, Plainville, are interested in the Plainville Casting Co., Plainville, Conn., incorporated under the laws of that State with a capital of $50,000.

The Page-Lewis Arms Co., Chicopee Falls, Mass., rifles, expects to begin production within a month. It occupies one of the former plants of the Stevens-Duryea Co., and is a holding company for the Page Needle Co. The equipment of the latter has been moved from 18 Bridge Street to the new location. Officers of both companies are: Irving H. Page, president; George S. Lewis, vice-president, and Charles H. Leonard, treasurer. Mr. Page formerly was president of the Stevens-Duryea Co.

The Weir Stove Co., Fourth Street, Taunton, Mass., is having plans prepared for a two-story foundry addition, 77 x 77 ft., to cost about $25,000.

The Gilbert & Bennett Mfg. Co., Georgetown, Conn., manufacturer of wire cloth, etc., has awarded a contract to the H. Wales Lines Co., Meriden, Conn., for a one-story galvanizing shop, 38 x 85 ft., and one-story annealing building, 50 x 100 ft. A traveling crane will be installed.

The Middlesex Rubber Co., Reading, Mass., has been incorporated with a capital of $50,000 to manufacture rubber products. George E. Jeandheur, 1277 Commonwealth Avenue, Brighton, Mass., is president and treasurer.

The McNab Boat Corporation, Bridgeport, Conn., has been incorporated with a capital of $150,000 by Alexander McNab, Henry Bishop and W. E. Burnham, 35 Post Office Arcade, to operate a local shipbuilding plant.

The Spencer Regulator Co., 5 Front Street, Salem, Mass., manufacturer of damper regulators, etc., has awarded contract to Pitman & Brown, Salem, for a one-story, brick addition, 49 x 80 ft., estimated to cost about $40,000 with equipment.

The Collins Co., Collinsville, Conn., manufacturer of agricultural implements, will defer the erection of its two-story addition until a later date. The extension is estimated to cost about $150,000 with machinery.

Manning, Maxwell & Moore, Inc., 119 West Fortieth Street, New York, machinery, traveling cranes, etc., has acquired a block of buildings at 389-99 Northampton Street, Boston, with 8748 sq. ft. of land, for its local works.

The Postal Supply Co. Inc., Boston, has been incorporated with a capital of $250,000 to manufacture plumbers' tools and other mechanical specialties. Edmund I. Lalor is president, and John G. Deery, 704 Commonwealth Avenue, treasurer.

The Sarasin Six-Wheel Bull-Line Truck Mfg. Co., Kittery, Me., has been incorporated with a capital of $500,000 to manufacture trucks and parts. Robert M. Herrick is president, and Horace Mitchell, treasurer, both of Kittery.

George Pendle, Cambridge, Mass., care of Tuck & Gilman, architects, 34 School Street, Boston, has plans under way for a new two-story automobile service building and repair works, 150 x 290 ft., on University Place, Cambridge, to cost about $200,000.

Philadelphia

PHILADELPHIA, April 18.

The Merchant Shipbuilding Corporation, Chester, Pa., is perfecting plans for the operation of a large portion of its plant for the manufacture of machinery, power plant equipment, railroad equipment, and plate shop work. It is licensed to manufacture Diesel engines in this country and will make a specialty of this line. Alterations will be made at the plant and it is expected to give employment to an increased force in the different departments. The works cover 50 acres and represent an investment of about $6,500,000. J. L. Ackerson is vice-president in charge of operations.

A one-story machine and repair works for automobile operations will be erected by T. J. Slattery, 1008 South Forty-sixth Street, Philadelphia, in connection with the construction of 50 individual garages at Fifty-ninth Street and Baltimore Avenue. Emile Perrot, Parkway Building, is architect.

The John Eppler's Machine Works, 629 Filbert Street, Philadelphia, has acquired property at the corner of American and Buttonwood streets, 40 x 96 ft., formerly held by Harry J. Weiss, for the erection of a new two-story plant, 40 x 80 ft. Construction will commence at once.

The Sheridan Automobile Co., Philadelphia, has leased the entire building at 905 North Broad Street for a term of years for new works.

The Philadelphia New Method Molding & Metals Corporation, 18 South Seventh Street, Philadelphia, has filed notice of change of name to the Amphibole Products Corporation.

The Vanadium Corporation of America, Primos, near Philadelphia, has disposed of its local plant for about $250,000. The purchaser's name has been withheld for the present.

The Bureau of Water, Department of Public Works, Philadelphia, will expend about $120,000 for erecting and equipping its new machine shop and repair works, 160 x 200 ft., at Clearfield and Twenty-eighth streets. Contract for construction will soon be let. C. E. Davis is director.

The Electric Storage Battery Co., Allegheny Avenue and Nineteenth Street, Philadelphia, manufacturer of storage batteries, has construction under way on 17 buildings at its new plant at Crescentville, and plans are ready for another group of 10 buildings. Construction of the latter structures will begin at an early date. The plant will be used exclusively for the manufacture of electric storage batteries.

The F. & L. Battery & Supply Co., Trenton, N. J., has been incorporated with a capital of $100,000 by Rubin Feldsher and Jacob Lens, to manufacture electrical equipment. It is represented by Forman & Levy, 817 Broad Street Bank Building, Trenton.

The Union Petroleum Co., 17 Battery Place, New York, a subsidiary of the Sinclair Consolidated Oil Co., 120 Broadway, is said to have plans under way for the erection of the initial units of its refinery on property recently acquired

at Marcus Hook, Pa. The complete plant is estimated to cost in excess of $5,000,000.

The Adamtex Brick Co., 171 Madison Avenue, New York, recently organized with a capital of $1,000,000, is planning for the construction of new works at Trenton, N. J., as a branch of its present plant on Forty-seventh Street, Brooklyn. W. L. Wootton is president.

The Freeland Bobbin Works, Freeland, Pa., manufacturer of textile equipment, has leased property at the works of Robert A. S. Lentz, Washington Street, building materials, for the establishment of a new plant to replace its works recently destroyed by fire.

The Royce Motor Co., Lancaster, Pa., has awarded contract to the Piel Construction Co., Roland Avenue, Baltimore, for a new one-story plant for the manufacture of automobile tires, estimated to cost about $200,000 with machinery.

The East Penn Foundry Co., Macungie, Pa., is said to be planning for the erection of an addition. It is giving employment to about 100 operatives.

The McCormick Motor Car Co., West Third and Locust streets, Williamsport, Pa., has awarded a contract to the Turner Construction Co., 1713 Sansom Street, Philadelphia, for a two-story service and repair building, 130 x 190 ft., at Third and Hepburn streets, to cost about $75,000.

The Reading Hospital Commission, American Casualty Building, Reading, Pa., has plans under way for the erection of a new power plant at its institution, Front and Spring streets. Isaac H. Francis, Otis Building, Philadelphia, is engineer.

Cleveland

CLEVELAND, April 18.

Nothing of interest developed in the machine-tool market the past week and the few orders reported were mostly for single machines. There is more call for used machinery than for new tools. The Sandusky Foundry & Machine Co., Sandusky, Ohio, has purchased several large gun boring lathes from the Government. This company, which manufactures paper making machinery, is said to be operating its plant at capacity. The Marion Steam Shovel Co., Marion, Ohio, has an inquiry out for a steam hammer.

The Government is taking bids for a 400-ton gantry crane for handling guns and the order is expected to be placed within two weeks.

Two or three local foundries which specialize on automobile work are operating a little better than a few weeks ago, which is the only improvement noted in the foundry situation.

The Atlas Brass Co., Cleveland, will move its plant to Bellefontaine, Ohio, where the erection of a new factory will start shortly. The first unit will contain about 20,000 sq. ft. of floor space and it is expected that other buildings will be added later. The removal of the plant has been brought about through the efforts of the Chamber of Commerce of that city which has succeeded in disposing of about $100,000 of the company's stock in Bellefontaine.

The sale of the plant of the Kauffman Metal Parts Co., Bellefontaine, Ohio, to the new Kauffman Metal Products Co., has been formally agreed upon. The new company, which is to be incorporated for $300,000, has been organized by J. C. Burns, Columbus, manager and one of the owners of the Standard Bolt Co., and Charles Bowen, Springfield, who have purchased the plant and also that of the Automatic Metal Products Co., Springfield. The equipment in the Springfield plant will be moved to the Bellefontaine works. Castellated nuts will be manufactured.

The Lucius Mfg. Co., Canton, Ohio, has changed its name to the Canton Tank & Mfg. Co.

The Sandusky Tractor Co., Sandusky, Ohio, has been incorporated with a capital stock of $100,000 and will take over the plant of the Dauch Mfg. Co. to manufacture tractors.

The Lake Shore Stone Products Co., Sandusky, Ohio, has been incorporated with a capital stock of $500,000 and has taken over the Lake Shore Quarries, near Castalia. It is stated that a $200,000 stone crushing plant will be erected. John Hobart, Jr., Cleveland, is president, and John A. Giedeman, Sandusky, secretary and treasurer.

The Canton Brick & Fire Proofing Co., Canton, Ohio, and the Midvale Clay Products Co., Midvale, Ohio, recently merged with other kindred interests in this section, have plans under way for a new foundry at Midvale to be ready for operation during the summer. William F. Demuth, New Philadelphia, Ohio, heads the new organization, which is capitalized at $1,500,000.

The City Council, Wapakoneta, Ohio, will soon call for bids for the construction of a municipal electric light and power plant, estimated to cost about $110,000. Froehlich & Emery, 403 Second National Bank Building, Toledo, Ohio, are engineers.

Chicago

CHICAGO, April 18.

Local machinery merchants report current buying at a low rate and that unless sales are more plentiful in the next fortnight April bookings will fall below those of March. Practically no business is coming from either the railroads or large industrial plants. Small shops are responsible for such purchases as are being made and in most cases only one or two machines are bought at one time. The largest transactions reported the past week were closed with small plants, one of which bought general equipment for a new machine shop, amounting to about $6,000, and the other purchased a number of second-hand grinding machines involving $3,400.

The Sheet Metal & Conveyor Co., 1804-10 South Kilbourne Avenue, Chicago, will erect a one-story sheet metal shop, 62 x 123 ft., to cost $30,000. The Phillips & Lang Co., 538 South Dearborn Street, is the architect.

The Garbell Typewriter Corporation, 1309-17 West Lake Street, Chicago, has let contract for a one-story addition, 30 x 43 ft., to cost $6,000.

Orlando A. Pecchia, 2646 Fullerton Avenue, Chicago, has awarded contracts for a one-story automobile shop, 100 x 132 ft., at 3913-19 Fullerton Avenue, to cost $30,000.

I. H. Wells, 2028 North Major Avenue, Chicago, has awarded contracts for a two-story washing machine factory, 50 x 124 ft., at 2100-2102 North Major Avenue, to cost $20,000.

Schaub Brothers, 3010 Wentworth Avenue, Chicago, are constructing a one-story automobile repair shop, 25 x 60 ft., at 2919 Wentworth Avenue, to cost $5,000.

The plant of the Harrington Mfg. Co., Peoria, Ill., manufacturer of wagons, was damaged by fire recently with a loss of $100,000. The quarters of the S. H. & L. Co., manufacturer of toys, in the same building, were totally destroyed.

J. S. Lynch is erecting a one-story machine shop at 457-61 North Racine Avenue, Chicago, to cost $15,000.

Jentoft Hendrickson has purchased a half interest in the Mott Blacksmith & Machine Shop, Mott, N. D., and will take over the management.

The Worth Wire Works, Kokomo, Ind., is completing a new plant in the northern part of the city.

The Resolute Mfg. Co., 4100 Ravenswood Avenue, Chicago, recently incorporated with $100,000 capital stock, will manufacture an iceless refrigerator. The officers include Charles L. McCuen, president, and W. Lee Graves, secretary and treasurer.

The Western Body Mfg. Co., 763 Third Street, North, Minneapolis, is having plans prepared for a three-story addition to its factory, to cost $45,000.

The National Grease Cup Co., 4928 Broadway, Chicago, has been incorporated with $27,500 capital stock by Frederick W. Haines, Sidney Dawson and Robert Maginnis to manufacture grease cups, etc.

The Perfex Co., 1002 North Franklin Street, Chicago, has been incorporated with $40,000 capital stock by Albert A. Stern, Emil Stern and Sol Flatau to manufacture devices used by ice cream manufacturers and the dairy trade.

The Jerome Rothenbucher Valve Co., 3136 West Chicago Avenue, Chicago, has been incorporated with $60,000 capital stock to manufacture pumps, valves, springs, etc. The incorporators include Robert and George C. Jerome and George E. R. Rothenbucher.

The Acme File & Rasp Co., Inc., 1926-44 Webster Avenue, Chicago, has been organized with $50,000 capital stock to manufacture and recut files and rasps. The incorporators include Julius, Frank and Walter Halatak.

The United Paperboard Co., Peoria, Ill., has plans under way for rebuilding its plant, recently destroyed by fire. The new works will be one-story, estimated to cost about $200,000 with machinery. C. E. Foster is secretary.

The Bell Bumper Co., 3316 South Park Avenue, Chicago, has been incorporated by Ira D. Perry, Max Weber and Thomas D. Bell to manufacture automobile bumpers, bodies, accessories, etc.

The Automatic Oil Burner Co., Room 1610, 111 West Washington Street, Chicago, has been incorporated with a capital of $100,000 by Fred H. Bowen, Thomas D. Quigley and Charles A. Scott, to manufacture oil-burning equipment and devices.

The Clark Implement Co., Sioux Falls, S. Dak., has awarded contract to the Sioux Falls Construction Co., Boyce-Greely Block, for a new one-story building on Webber Avenue, 62 x 125 ft.

The B. & B. Tool & Machine Works, Chicago, has been

organized by Edward S. Band and Henry M. Lockwood, to manufacture machinery and tools. The company is represented by Grossberg & Haffenberg, 29 South La Salle Street.

Detroit

DETROIT, April 18.

The Utility Compressor Co., 1161 East Harper Avenue, Detroit, manufacturer of air compressors, etc., has preliminary plans under way for a new one-story plant at Adrian, Mich., to cost about $40,000. Baxter, O'Dell & Halpin, 927 Hammond Building, Detroit, are architects. E. R. Hasse is president.

The Columbia Body Corporation, Detroit, has been incorporated with a capital of $500,000 by August Qunnel, Joseph B. Pospeshil and James H. McTaggart, 45 Selden Avenue, to manufacture automobile bodies.

The Michigan Foundry & Machine Co., Detroit, has filed notice of change of name to the Willis Piston Co.

The City Engineering Department, Lansing, Mich., will soon have plans ready for bids for its proposed new municipal electric power plant to have an initial capacity of about 55,000-kw. It will be 150 x 245 ft. and is estimated to cost in excess of $500,000. J. A. Parsons is city clerk. Woodwell & Resler, 501 Fifth Avenue, New York, are engineers.

The Detroit Porus Inner Tube Co., Detroit, has been incorporated with a capital of $100,000 by Frank Moons and George J. Holstein, 3128 Elmwood Avenue, to manufacture inner tubes and other rubber products.

The Michigan Aero Service Co., Lansing, Mich., is planning the erection of a new one-story mechanical building at its airplane field for general machine repair work, parts manufacture, etc.

The Safety Release Clevis Co., Holland, Mich., has been incorporated with a capital of $75,000 by B. Hulsebos, Gerrit D. Besten and Henry Ketel, Holland, to manufacture automatic couplings and other steel and iron products.

The Michigan Tool Co., 402 East Jefferson Avenue, Detroit, is preparing to build its contemplated one-story plant, 90 x 200 ft., at a cost of approximately $65,000.

Cincinnati

CINCINNATI, April 18.

Orders for machine tools so far this month are holding up fairly well, compared with March. Inquiries are more numerous, and some engine lathe manufacturers are booking orders for one and two machines from widely scattered parts of the country. That the recent price reductions have not stimulated business to any extent is evidenced by the experience of one manufacturer who sent out letters to buyers who had been contemplating the purchase of tools, informing them of the reduction and intimating that it would be an opportune time to place orders. In no case was an order received, the replies generally stating that the buyer, in view of reduced operations, was not in the market for any equipment. One bright spot in the market is the receipt of shipping instructions on tools held up since last year and the reinstatement of old orders canceled last summer. There is a noticeable improvement in the automotive industry and local truck manufacturers are satisfied, in view of general conditions, with the volume of business. Foreign business is practically extinct, the chief reason being the adverse exchange situation. A local manufacturer recently quoted on a number of machines for shipment to France, but was underbid $400 on each tool by German manufacturers.

The Clark Sanding Machine Co., Dallas, Tex., is contemplating moving its plant to Cincinnati and has been in communication with the industrial department of the Chamber of Commerce regarding a site. A. A. Clark is president.

The Victor Products Co., Springfield, Ohio, has been incorporated with a capitalization of $15,000, for manufacturing metal specialties. It was formerly the Victor Mfg. Co., 113 West Main Street and the new company will continue operations in the same location. L. B. Lemmon is general manager.

The plant of the Ironton Stove Mfg. Co., Ironton, Ohio, was destroyed by fire on April 10 with a loss of approximately $150,000. Plans are under way for rebuilding. J. E. Davis is president.

The Dayton Disk Wheel Co., Dayton, Ohio, has been incorporated with a capitalization of $100,000 by G. F. Deady, C. A. O'Brien, F. C. Hubbell, J. E. Saum and C. C. Williamson.

The Gage & Welty Mfg. Co., Dayton, Ohio, has been incorporated with a capitalization of $50,000, to manufacture machinery and has opened offices in the U. B. Building. A. J. Welty, Francis C. Canny, and Joseph J. Gage are the incorporators.

The Duplex Motor Car Co., South Perry Street, Dayton, Ohio, is planning the erection of a new two-story service and repair building, 40 x 60 ft., to cost about $50,000.

Buffalo

BUFFALO, April 18.

The Simmons Machine Co., 86 Exchange Street, Buffalo, is in the market for a Brightman turning machine for turning 1-in. to 4-in. round steel bars, either belt or motor-driven; also a new 36-in. x 36-in. x 18-ft. planer.

The Climax Compression Tube Co., 200 Cherry Street, Buffalo, manufacturer of automobile tubes and other rubber products, has plans under way for a new plant in the vicinity of its present works and negotiations are being completed for the purchase of an existing building. A stock issue of $1,000,000 has been arranged to provide for the purchase and for new machinery. A. L. Case is chairman of the board of directors.

The Williams Gold Refining Co., 2978 Main Street, Buffalo, will soon take bids for a one-story addition to its plant to cost about $15,000. A. D. Williams is president.

The Adria Motor Car Co., Buffalo, has been incorporated with a capital of $1,000,000 by W. C. Wheeler, L. F. Vremsack and J. C. Stockman, to manufacture automobiles. It is represented by Haley & Ueck, 75 Niagara Street.

O. S. Sleeper & Co., Inc., Buffalo, has been incorporated with a capital of $20,000 by H. E. Neubauer, C. B. Brown and O. S. Sleeper, 18 Linwood Terrace, to manufacture machinery and parts.

The Rossie Electric & Mfg. Corporation, Rossie, N. Y., will issue stock in an amount of $41,500, the proceeds to be used for extensions at its power plant and the installation of new equipment.

The St. Regis Paper Co., Trust Company Building, Watertown, N. Y., will make enlargements in its plant and install new equipment for the manufacture of fiber cases and containers.

The Absorbent Compress Co., Inc., Rochester, N. Y., has been incorporated with a capital of $100,000 by F. W. Warner, 588 Wellington Avenue, and associates, to manufacture compresses.

Arrangements are being made by James W. Persons, receiver for the Flexible Armored Hose Corporation, 752 Main Street, Buffalo, for the sale of the company's property.

The Romer Axe Co., Dunkirk, N. Y., manufacturer of axes, hatchets, etc., has filed notice of dissolution under State laws.

The Village Council, Old Forge, N. Y., is completing plans and will soon call for bids for the construction of a municipal electric lighting plant to cost about $50,000. H. Powell is engineer.

Pittsburgh

PITTSBURGH, April 18.

The machine tool market the past week is said to have been the quietest of any week this year. Action continues to be deferred against a number of inquiries which have been before the trade for some time, including the cranes and other requirements for the new sheet mill of the International Nickel Co., at Huntington, W. Va., the cranes wanted for the Wheeling plant of the Whitaker-Glessner Co., the crane and the two hoists for the Pittsburgh Screw & Bolt Co., Pittsburgh, as well as the lists of the manual training schools in Pittsburgh, Johnstown, Butler, Pa., and Wheeling, W. Va., against which bids went in a few weeks ago. It is reported that the Whitaker-Glessner Co. in seeking bids on a 7½-ton and a 20-ton crane, stipulated that the bids should be upon a pound basis, which has caused considerable confusion. It is expected that the 10-ton overhead crane wanted by the Pittsburgh Screw & Bolt Co. will be placed this week. The Pittsburgh Board of Education is tabulating bids for tools wanted for the Peabody, Schenley and Allegheny high schools and it is expected that the awards will be made soon. Prices generally still are in buyers' favor, especially on cranes, makers of which have so little business in sight that they are inclined to forget profits for the time in order to keep their plants going and their organizations intact. Some business is developing daily in electrical equipment, the General Electric Co. having recently secured through its Pittsburgh office an order for a 1500-kw. synchronous motor generator set for the Edgar Thomson Works of the Carnegie Steel Co., while the Pittsburgh office of the Allis-Chalmers Mfg. Co. recently was awarded an electric coal hoist for W. J. Rainey, Inc., Uniontown, Pa.

The Paragon Motor Car Co., Connellsville, Pa., and Century Building, Cleveland, has selected a site at Cumberland, Md., for its new plant, and will abandon plans for the erection of the works at Connellsville. The initial unit will com-

prise a two-story building, 60 x 400 ft., with a number of smaller structures, estimated to cost about $1,000,000 with machinery. A department will be given over to the manufacture of gasoline motors. Local offices will be established in the First National Bank Building, Cumberland, and it is expected that bids will be asked in about 60 days.

George Naismith & Son, Inc., Pittsburgh, has been incorporated with a capital of $100,000 to manufacture furnaces and kindred equipment. George Naismith, 217 Lexington Avenue, Aspinwall, Pa., is treasurer.

The Electrical Engineering Co., Pittsburgh, has acquired the factory at 10-12 Cremoe Street, Northside, 38 x 120 ft., for $19,000. It will be used for a local works.

The Ford-Barger Machinery Co., Braeholm, W. Va., has been incorporated with a capital of $45,000 by N. L. Barger and P. J. Riley, Braeholm, and D. B. Turner, Huntington, W. Va., to manufacture machinery and parts.

The Bureau of Yards and Docks, Navy Department, Washington, is planning the construction of three airplane hangars, with repair facilities, at Compton Field, Wheeling, W. Va.

The La Mar Coal Co., Barracksville, W. Va., is planning for the installation of electrical machinery at its properties.

The Cameva Coal Co., Maxine, W. Va., recently organized with a capital of $200,000 will take bids about May 15 for machinery, electric motors, coal cars and other equipment for installation at its properties. W. I. Campbell is president, and Frank Meadows, secretary and treasurer, Masonic Temple, Charleston, W. Va.

The American Coal Loading Machine Co., Huntington, W. Va., has been incorporated with a capitalization of $225,000 to manufacture coal loading and other machinery. M. R. Martin and D. B. Turner, Huntington; P. J. Riley and J. H. Ford, Braeholm, and Leroy Allebach, Charleston, are the incorporators.

Baltimore

BALTIMORE, April 18.

The Big Savage Fire Brick Co., Frostburg, Md., has perfected plans for the erection of two additions, 150 x 300 ft., and 150 x 200 ft., respectively. The first will be used as a kiln department and for other plant operations, and the second for general manufacturing. Twelve new furnaces will be installed and considerable other equipment. The extensions are part of an expansion program recently arranged, and are estimated to cost about $150,000. The output will be increased by about 50,000 fire brick and refractory shapes per day. D. A. Benson is vice-president and treasurer, in charge of operations.

The Ingram Mfg. Co., 120 South Calvert Street, Baltimore, has been incorporated with a capital of $100,000 by Walter M. Ingram, William D. Gude and Enoch Harlan, to manufacture rotary engines, air pumps and similar equipment.

The Maryland Fiber Products Co., Hagerstown, Md., recently incorporated with a capital of $150,000, has plans under way for the establishment of a factory to manufacture fiber cases and other fiber specialties. It is headed by Mark H. Landis, manager of the Landis Engineering & Mfg. Co., 225 Ringgold Street, Waynesboro, Pa. Other officials are Richard G. Stevenson and Thomas M. Cunningham, Hagerstown.

Work will proceed at once on the new $6,000,000 plant to be erected by the American Sugar Refining Co., 117 Wall Street, New York, at Baltimore. Plans have been filed for a seven-story pan house, 80 x 154 ft., and nine-story building, 140 x 320 ft.

The Acme Garage & Auto Co., 912 Lovegrove Avenue, Baltimore, is having plans prepared for a new two-story service and repair building at Biddle and Fallsway streets, to cost about $150,000.

The Maryland Car Wheel Co., Curtis Avenue, Curtis Bay, Baltimore, has been incorporated with a capital of $1,000,000 to succeed the Maryland Car Wheel Works, now operating in this section. Plans are under way for the erection of additions to cost in excess of $500,000 with machinery. The incorporators of the new company are Samuel H. McMillan, Raymond L. Berry and Donald H. Sherwood.

The Prudential Oil Co., Fairfield, Md., has filed plans for an addition to its plant.

Fire, April 12, destroyed the machine shop at the plant of the Moon Engineering Co., 535 Front Street Norfolk, Va. It will be rebuilt.

The Bureau of Yards and Docks, Navy Department, Washington, has completed plans for a new machine shop at the Naval Operating Base, Hampton Roads, Va. The department will make extensions and improvements also in the plating works at the Naval Torpedo Station at Alexandria, Va.

The Eastern Shore Marine Railway Co., St. Michaels, Md., has been incorporated with a capital of $100,000 by Harold A. Harrison, James F. and Walter C. Lowery, to construct a local dry dock and shipyard.

The Jerry Brothers Belting Co., 1823 East Main Street, Richmond, Va., is planning the erection of an addition to cost about $25,000. Considerable machinery will be installed, including presses, trimming machines, etc. George Gassman is manager.

The United Mills Co., Hickory, N. C., has received permission from the Federal Water Power Commission to construct a new hydroelectric generating plant on Harpers Creek, Caldwell County, for textile mill operation in this section.

The Paul Rubber Co., Salisbury, N. C., has been incorporated with a capital of $250,000 by W. J. Daniel, M. L. Miller and E. C. Brainard, Salisbury, to manufacture automobile tires and other rubber products.

The Chatham Light & Power Co., Chatham, Va., will double the capacity of its power plant with the installation of new equipment. Plans have been prepared.

The Newport News Battery & Electric Co., Newport News, Va., will install additional machinery.

The National Auto Top Co., Inc., Richmond, Va., contemplates the installation of additional machinery for the manufacture of metal automobile bodies.

A machine shop will be erected by Alexander & Garsed, Charlotte, N. C.

Milwaukee

MILWAUKEE, April 18.

Machine tool buying is still confined to single tools for immediate shipment. Inquiries are increasing, but not much business has developed. About the only interest is that manifested by automotive industries, and these requirements are small in scope.

The A. O. Smith Corporation, Milwaukee, manufacturer of pressed steel frames, parts and forgings for the automotive industries, is re-employing its force and now has more than 1200 on its payroll, compared with 250 Feb. 1. Reinstatement of orders held in abeyance the last six to eight months, and new requirements from passenger car and motor truck manufacturers compel increased capacity.

The Baraboo Mfg. Co., Baraboo, Wis., manufacturer of domestic and industrial ice machines, has purchased several new tools to handle increasing orders.

The Ashland Machine & Paper Co., Ashland, Wis., has been reorganized to manufacture machinery for making waxed tissue and other papers. It has been occupying a part of the plant of the Bretting Iron Works, but intends to build a factory during the summer. Ralph Bretting is president, and John Martin, designer and chief engineer, vice-president and general manager. Details of the proposed plant are not yet available.

The R. Gumz Co., Muskego Avenue and Canal Street, Milwaukee, has plans for a three-story brick, steel and concrete addition, 45 x 110 ft., to its meat packing plant. It will include an addition to the boiler house and engine room, for which some new equipment will be required. The architects are Lesser & Schutte, 68 Wisconsin Street.

The Stevens Point Sheet Metal Works, Stevens Point, Wis., has been organized with a capital stock of $15,000 by F. M. Kostuch, J. C. Benkee and F. L. Marten to manufacture sheet metal products. A plant is being equipped in leased quarters.

The Board of Education, Sheboygan, Wis., has awarded the general contract to the Ludolf M. Hansen Co., Green Bay, Wis., for a brick and reinforced concrete high and vocational training school to cost approximately $450,000. Manual training equipment will be purchased later. The architects are Childs & Smith, Chicago.

The Badger Brass Co., 243 Lake Street, Milwaukee, contemplates the erection of a new foundry equipped for brass and aluminum casting, and estimated to cost about $50,000. Work probably will not be undertaken until after July 1. P. J. Rice, 459 Layton Boulevard, is proprietor.

The Manufacturers' Hardware Corporation, Milwaukee, has changed its name to the S. & G. Mfg. Co. The plant and offices are at 2326-2330 Clybourn Street.

The Board of Education, Barron, Wis., will erect a $50,000 addition to the high school to be equipped for manual training. The architect is Carl Volkman, Eau Claire, Wis.

The Rhinelander Paper Co., Rhinelander, Wis., will build a one-story brick and steel power plant addition, 36 x 50 ft., estimated to cost $45,000, including new equipment. L. A. DeGuere, Grand Rapids, Wis., is consulting engineer.

The Cramer Mfg. Co., Milwaukee, has been incorporated with a capital stock of $50,000 to manufacture oil and water pumps and similar machinery. The incorporators are Robert

Chamer, W. J. L. Graf and William E. Graf, 970 Island Avenue, Milwaukee.

The Schnorr Box Co., Manitowoc, Wis., plans to rebuild immediately its factory and engine room, destroyed by fire on April 12. The loss is estimated at $40,000. Fourteen wood-working machines will require replacement.

The Milwaukee Harness Co., Milwaukee, has been incorporated with a capital stock of $75,000 to manufacture harness, saddlery, hardware, etc. The incorporators are S. E. Woodbury, M. Nichols and J. C. Nichols, formerly head of the Nichols Harness Co., Sheboygan, Wis.

The Draws Ventilator Co., Milwaukee, has been organized with $60,000 capital stock to manufacture galvanized and other sheet metal specialties. The incorporators are G. A. L. and E. A. Draws, H. L. Franke and H. A. Habeck.

The Bull Dog Tractor Corporation, Fond du Lac, Wis., organized about two years ago to manufacture farm and highway tractors, has incorporated with a capital stock of $500,000. The incorporators are A. H. Gruenwald, J. H. Tritz and F. W. Wolcott.

Indiana

INDIANAPOLIS, April 18

The Dill Foundry Co., Rushville, Ind., is considering the erection of a three-story addition, 40 x 100 ft., to cost about $40,000. William Dill is secretary and treasurer.

The F. Wood Transfer Co., 216 North Meridan Street, Indianapolis, is having plans prepared for a new three-story automobile service building, to include repair department, 80 x 120 ft., on West Vermont Street, and to cost about $80,000. Vonnegut, Bohn & Mueller, 610 Indiana Trust Building, are architects.

The Muncie Gear Co., Wysor and Vine streets, Muncie, Ind., is completing plans for a one-story addition, 100 x 200 ft., estimated to cost about $50,000.

The Board of Trustees, Evansville College, Evansville, Ind., will build a new power plant at the institution in connection with a new administration building. The entire work is estimated to cost about $400,000.

The General American Tank Car Corporation, East Chicago, Ind., manufacturer of steel tank cars, steel freight cars, etc., has arranged for an equipment trust certificate issue to total $2,880,000. Max Epstein is president.

The Service Motor Truck Co., Wabash, Ind., has prepared a list of machinery to be installed in its proposed new plant at London, Ont., estimated to cost $300,000.

The Evansville Electrical Mfg. Co., Evansville, Ind., manufacturer of bronze bearings, trolley wheels, mine supplies, etc., with a plant in operation since last August, has been incorporated with $25,000 capital stock. John Polling, formerly with the Westinghouse company, is president and George W. Powell, of the U. S. Bureau of Mines, vice-president; William Bootz, secretary and H. A. Robertson, treasurer.

The Gulf States

BIRMINGHAM, April 18.

The Anniston Electric Steel Co., Anniston, Ala., recently organized, has acquired the plant of the Anniston Steel Works, and contemplates a number of extensions and the installation of additional equipment. It will specialize in the production of iron and steel castings and the manufacture of mine cars. W. H. Weatherly, head of the First National Bank, Anniston, is president; G. C. Illingsworth, vice-president and general manager.

The Madison Coal & Oil Co., Stewart Building, Houston, Tex., recently organized with a capital of $3,000,000, has preliminary plans under way for the erection of a new coal briquette manufacturing plant, in the vicinity of Madison, Tex., to have a capacity of about 300 tons of material per day. It is also planning for extensive coal-mining operations for which considerable machinery will be purchased. Hall Etter is president. David M. Duller, Houston, is engineer for the company.

The Petroleum Export & Import Co., St. Rose, La., a subsidiary of the Carson Oil Co., 29 South La Salle Street, Chicago, has completed plans for the new power and pumping plants on a local site, as well as barrel-filling and other mechanical buildings. The power house will be 60 x 250 ft., and pumping station, 60 x 90 ft.

The Arkansas Light & Power Co., Little Rock, Ark., is planning for extensions in its generating plant to double, approximately, the present capacity. New boilers, engines and auxiliary operating machinery will be installed. H. C. Couch is president.

The Marion Machine, Foundry & Supply Co., Marion, Ind., recently organized, is planning for the establishment of a new plant in the vicinity of Eldorado, Ark.

The National Metal Products Co., Birmingham, has been incorporated with a capital of $60,000 by H. P. Christie, Indianapolis, Ind., and associates, to build a plant for the manufacture of spraying machinery.

J. G. Kilgore, and O. B. Manross, Wichita Falls, Tex., are organizing a new company to build an oil refinery at South Bend, Tex., with a daily capacity of 500 bbl.

The Beaumont Iron Works Co., Beaumont, Tex., has awarded contract to Thomas Tellipson, Houston, Tex., for a new one-story machine shop, 45 x 300 ft., estimated to cost about $60,000. L. J. Black is president and manager.

Machinery to cost about $200,000 will be installed at the plant of the Moore Haven Sugar Corporation, Moore Haven, Fla. The plant will be remodeled and extended at a total cost of $350,000, and ultimately about twice this amount will be expended for betterments and machinery. John C. Grambling, Miami, Fla., is secretary and treasurer.

The Central South

ST. LOUIS, April 18.

The Arkansas Production & Refining Co., Gazette Building, Little Rock, Ark., has preliminary plans under way for the erection of a new oil refinery in the vicinity of El Dorado, Ark., to have an initial capacity of about 3000 bbl. The company recently increased its capital from $200,000 to $350,000. George A. Sonricker, El Dorado, is architect and engineer.

The Big Sandy Electrical & Repair Co., Pikeville, Ky., recently organized, has plans under way for a new machine shop and electrical repair works, 40 x 70 ft. E. S. Shurtleff is president and G. E. Butler, vice-president, both of Pikeville.

The International Harvester Co., 606 South Michigan Avenue, Chicago, has preliminary plans under way for the erection of a new works building at Louisville.

The Janssen-Ostertag Mfg. Co., Eighth and Mulberry streets, Kansas City, Mo., manufacturer of metal containers, cans, etc., has awarded contract to the Swenson Construction Co., Shubert Theater Building, for a two-story addition, 47 x 100 ft.

The Bufford Brothers Hardware Co., 179 Second Avenue, North Nashville, Tenn., has awarded contract to the Foster-Creighton Co., Fourth National Bank Building, for a one-story and basement addition, 102 x 146 ft.

The Silver Hill Sand & Cement Products Co., Silver Hill, Mo., recently organized, has plans under way for three buildings for the manufacture of cement roofing tile and similar products. John Campbell is president, and Frank Bell, manager.

The Blake Coal Co., Henryetta, Okla., recently organized, is planning for the construction of a new tipple at its local coal properties. Harry Lantz is head.

Freight handling machinery, loading and unloading equipment, conveying equipment, etc., will be installed at the new river and rail terminal to be constructed by the Board of Transportation, Nashville, Tenn., A. J. Byer, chairman. The terminal building will be a five-stories, 150 x 300 ft., and is estimated to cost about $300,000.

The United Block Coal Co., Auxier, Ky., will purchase considerable machinery for installation at its properties, including power plant equipment, aerial tramway, coal cars, rails and other apparatus. The company was recently incorporated with a capital of $100,000. J. C. Snyder is president and William White, manager.

The Board of Directors, Fulton State Hospital, Fulton, Mo., has plans under way for a new power house to cost about $40,000. M. O. Biggs is superintendent.

The Western Battery Mfg. & Supply Co., 224 West Broadway, Enid, Okla., recently organized, has acquired a local building for its new plant to manufacture electric storage batteries and accessories. J. G. Wright is vice-president and manager.

The Winn Co., Clarksville, Tenn., has been incorporated with a capital of $50,000 by W. A. Winn and A. R. Gohlson, Clarksville, to manufacture tools and mechanical devices.

A. T. Morey, 5565 Bartmer Avenue, St. Louis, has awarded contract to F. Schmidt, 5912 Enright Avenue, for the erection of a new one-story automobile service and repair building, 100 x 140 ft., with wing, 50 x 80 ft., at Delmar and Lake avenues, to cost about $75,000.

The Martin Motor Co., Springfield, Mo., has plans under way for the erection of a new service building and repair works to cost about $30,000.

California

LOS ANGELES, April 11.

The Chamber of Commerce, Glendale, Cal., is negotiating with a company now organizing, headed by W. O. Bruess, for the establishment of a local plant for the manufacture of automobile tires. An option has been taken on a 65-acre tract at the foot of Broadway. It is said that the project will represent an investment of over $2,000,000.

The Public Works Department, Berkeley, Cal., has plans under way for extensions in its machine shop at Allston Way and West Street. E. M. Hann is city clerk.

The California Iron Yards Co., 574 Bryant Street, San Francisco, is planning to rebuild the portion of its plant, destroyed by fire, March 25, with loss reported at $15,000.

The Renu Plating Co., 162 East Jefferson Street, Los Angeles, has filed notice of organization to manufacture metal plated ware. E. W. Francis, 460 South Mott Street, heads the company.

The Utah Copper Co., Salt Lake City, Utah, is planning the construction of a new electric generating plant for the operation of its local properties, to have an initial capacity of 60,000-kw.

The Pacific Spring Bed Co., 2326 Fourth Street, Berkeley, Cal., has awarded contract to Barrett & Hilp, Sharon Building, San Francisco, for its proposed new two-story building on South Bancroft Way to cost about $30,000.

The Ellis Headgate & Valve Co., Los Angeles, has been organized by J. W. Ellis and E. M. Crawford, 1100 Hibernian Building, to manufacture valves and kindred products.

Canada

TORONTO, April 18.

Some machine-tool buying is being done, but as a rule purchases are only for urgent needs. Inquiries continue to come in, but are chiefly for single tools and for sounding the market. Dealers handling new and second hand equipment are doing a fair amount of business in used tools. Small tools are in little demand and sales are confined to limited quantities.

The Crown Furniture Co., Ltd., Preston, Ont., which is building an addition to accommodate a new machine shop, will shortly be in the market for six turret lathes, engine lathe, universal grinder, surface grinder, milling machine and other accessories. Roy McMullen is mechanical superintendent.

The Powerhouse, box 604, Maple Creek, Sask., is in the market for a second-hand steam driven, direct connected electric unit, from 75 to 150-kw.

S. Baker, city clerk, London, Ont., is receiving bids for vertical pumps and motor in duplicate of 110-gal. per min. capacity, automatic controller, etc.

Clovis Naud, Deschambault, Que., will build an addition to his shop at a cost of about $25,000.

The Prince Rupert Pulp & Paper Co., Prince Rupert, B. C., is contemplating the erection of a mill at Seal Cove, B. C., to cost $1,000,000.

The Ruggles Motor Truck Co., Dominion Savings Building, East London, Ont., is contemplating the erection of an addition.

The St. Thomas Metal Signs, Ltd., St. Thomas, Ont., has been incorporated with a capital stock of $100,000 by James T. Stewart, Frederick W. Sutherland, Frank Stadler and others to take over the business now carried on by the St. Thomas Metal Signs, Ltd.

The Wattman Car Bodies, Ltd., Toronto, has been incorporated with a capital stock of $50,000 by Chalmers H. Weir, Ernest G. Black, Allen H. Neely and others to take over the business now carried on by William H. Wattman under the firm name of the William H. Wattman Car Body Co.

The National Steel Car Co., Ltd., Hamilton, Ont., has changed its name to the Hamilton Car Co., Ltd.

The Hercules Truck Co., Ltd., Hamilton, Ont., has been incorporated with a capital stock of $100,000 by William Kerr, Frederick May, Harold Peace and others to manufacture motor trucks and automobiles, and to take over the business formerly carried on by William and Enan S. Kerr. products.

The London Art Glass & Mirror Works, Ltd., London, Ont., has been incorporated with a capital stock of $50,000 by Arthur E. H. Ladd, Robert J. Edwards, both of London; Washington G. Rounds, Woodstock, Ont., and others to manufacture plate glass, mirrors, etc.

BOOK REVIEWS

Statistics in Business; Their Analysis, Charting and Use. By Horace Secrist, Ph.D., professor of economics and statistics, Northwestern University. Pages, ix + 137; 5½ x 8 in. Published by McGraw-Hill Book Co., Inc., New York.

Professor Secrist throughout this volume emphasizes the necessity of business men knowing facts that directly and indirectly affect their future, the way they do this and the extent of the effect—and that it is possible and indispensable to do it scientifically. It is one of those volumes that promises to bring to the aid of business the scientific method that changed engineering from a rule of thumb standard to something approaching exactness and certainty.

Each of us attempts to pre-judge the future from past and present. We use certain facts and impressions as mental indicators and rely on them to show us what will happen. Practically always these are merely "hunch" judgments. The author points out the necessity of using only the proper indicators based on broad and accurate foundation, and applying them only so far as they reliably indicate.

There are eight chapters: Modern Business and Fact Analysis, The Facts of Business, Recognizing and Securing the Facts, Classifying and Tabulating the Facts, Presenting the Facts, Summarizing the Facts and Comparison and the Establishment of Business Principles and Standards. Exceedingly brief, exceeding clear, this little book on a subject we are just commencing to realize the importance of is going to be the much-thumbed companion of a lot of people. There are none so far up and few so far down in business position that they cannot use it to advantage.

J. J. R.

New Books Received

The Modern Motor Truck. By Victor W. Page. Pages 1000, 6 x 9 in.; 750 illustrations. Published by the Norman W. Henley Publishing Co., 2 West Forty-fifth Street, New York.

Handbuch der Deutsche Metall-Industrie Zeitung. A compilation of classified advertisements together with about 150 pages of tabular and other information for machine shop operation; several hundred pages of advertisements, 6 x 9 in. Edition for 1921 and published by Bergisch-Märkische Druckerei u. Verlagsanstalt, Remscheid, Germany.

Personnel Relations in Industry. By A. M. Simons. Pages xi+341; 6 x 9 in. Published by the Ronald Press Co., 20 Vesey Street, New York.

Metallography. Part II, Metals and Common Alloys. By Samuel L. Hoyt. Pages ix+462; 6 x 9 in. Published by the McGraw-Hill Book Co., Inc., 370 Seventh Avenue, New York.

Cam Design and Manufacture. By F. B. Jacobs. Pages vii + 121; 6 x 9 in.; 89 illustrations. Published by D. Van Nostrand Co., 8 Warren Street, New York.

Another of the brochures sent out by Stone & Webster, Boston, and descriptive of the work done by that organization for the Massachusetts Institute of Technology, Cambridge, Mass., bears the title, "A National Landmark." The 48 pages of this pamphlet are devoted mostly to magnificent pictorial presentation of the facilities of Technology for taking care of the ever increasing student body which seeks out that well known institution of learning. Stress is laid upon the laboratory equipment for tests and studies of all types of machinery, hydraulic, mechanical, electrical and other, with which the students are primarily concerned.

Powdered coal will be the subject of a meeting of the St. Louis section of the American Society of Mechanical Engineers at the American Hotel, St. Louis, April 29. H. I. Gentine, of the American Atomized Fuel Co., will deliver a paper on the subject.

NEW TRADE PUBLICATIONS

Fire Brick Cement.—Clinton Metallic Paint Co., Clinton, N. Y. A four leaf folder describing Clinton super-heat fire brick cement, a refractory bonding material.

Combustion Control Device.—Mono Corporation of America, 25 West Broadway, New York. A four page bulletin describing the economy effected by the duplex Mono apparatus in controlling and recording both the surplus of air in the process of combustion, as well as the degree of incomplete combustion.

Pulverized Coal.—Fuller-Leigh Co., Fullerton, Pa. Bulletin No. 600. Size, 8 x 10½ in. 27 pages. Describes pulverized coal plant for boilers, giving details of equipment used in various stages, including crushers, dryers, unit pulverizer and air separator, conveyor, feeder and burners. Designs showing burning equipment and furnaces for bituminous and lignite coals and for anthracite coals and coke braize, are given.

Mechanical Stokers.—United Stoker Co., Hammond, Ind. Catalog A. Illustrates and describes the parts and construction of the United traveling grate stokers for natural or forced draft, uniform or fluctuating loads.

Drawing Instruments.—C. F. Pease Co., 813 North Franklin Street, Chicago. Catalog D-21. Size, 6 x 9 in., 8 pages. Illustrates and gives prices of Pease Chicago-made drawing instruments.

Miniature Models.—Peter Koch, Köln-Nippes, Germany. Album of photographic reproductions of models of machinery; 75 pages, 8 x 9 in., printed in German. The photographs are arranged in groups, one on engines, another on boiler apparatus and rolling mill equipment. Others cover locomotives and rolling stock; fabricated steel structures, such as bridges, crane runways and blast furnaces, etc. The models are available for patent work, for displays and general exhibition purposes.

Railroad Material.—Societe Franco-Belge de Material de Chemins de Fer, rue La Boëtie, 5, Paris, France. Album of pictures with tables of weights and dimensions of locomotives, railroad cars, etc. Written in French, 7 x 10½ in., 142 pages.

Drilling Machines.—Frontier Machine Tool Co., Inc., Buffalo. Catalog describing features of the Frontier superdrill with a page giving specifications of power hack saw machine and tool grinder.

Plows and Cane Mills.—The Southern Plow Co., Columbus, Ga. General catalog, 6 x 9 in., 115 pages, describing steel and cast plows, plow stocks, harrows and cultivators. Columbus cane mills, evaporator pans and rocker furnaces are also described. List prices are given for both new equipment and repair parts.

Steel Tanks.—Lancaster Iron Works, Lancaster, Pa. Bulletin, four pages. Lists sizes of horizontal oil storage tanks, flat heads, and pressure tanks, dished heads, carried in stock for immediate shipment. Contains also a schedule of standard field storage tanks, material for which is kept in stock.

Shapers.—Bertschy Engineering Co., Cedar Rapids, Ia. Folder, 8½ x 11 in., 4 pages. Describes features of Bertschy high speed and heavy duty back geared metal working shapers, cone, single pulley and motor drive.

Box Tools.—P. H. Biggs Machine Co., Cleveland. Folder, 4 pages, 8½ x 11 in. Describes and illustrates model C and D tangent cut box tools.

Bridge Construction.—McClintic-Marshall Co., Pittsburgh. Size, 8 x 10½ in., 31 pages. Devoted to description and views of the Sciotoville bridge over the Ohio River at Sciotoville, Ohio, erected for the Chesapeake & Ohio Northern Railway Co.

Porcelain Enameling Furnaces.—Chicago Flexible Shaft Co., Chicago. Catalog No. 80. Size, 8½ x 11 in., 32 pages. More than half the catalog is devoted to description of porcelain enameling methods and including raw materials used, ingredients of enamels, enamel coloring compounds, application of enamel and porcelain enameling furnaces of various types. Space is also devoted to a description of the Stewart enameling furnaces made by this company.

Electric Hoists.—Roeper Crane & Hoist Works, Reading, Pa. Catalog No. 50. Size, 6 x 9 in., 16 pages. Gives specifications, dimensions and capacities of hook suspended type hoist, hoist with plain and geared I-beam trolley, hoist with motor driven trolley and cage operated monorail hoist.

Dust Conveying System.—Dust Recovering & Conveying Co., Cleveland, Ohio. Bulletin No. 501. Describes and illustrates application of the Dracco system of pneumatic conveying and dust recovery. Four different types of installation are featured.

Drill Pipe.—National Tube Co., Pittsburgh. Bulletin No. 15 C. Size 8½ x 11 in.; 40 pages. Describes and illustrates the use and advantages of National pipe for drilling purposes. An outline of the history of drilling, together with a description of modern methods, are given. A section is devoted to a description of National pipe points and National working barrels. Tables of useful data conclude the bulletin.

Screw Plate Sets.—Pratt & Whitney Co., Hartford, Conn. Circular No. 264, 19 pages, 6 x 9 in. Illustrations and prices of sets of taps and dies put up in various combinations selected to meet the requirements of the small shop, garage, service station and general tool room.

Oil and Gas Burners.—W. S. Rockwell Co., 50 Church Street, New York. Bulletin No. 223. Size 8½ x 11 in., 6 pages. Describes and illustrates various types of Rockwell burners suitable for use of oil and gas fuels for industrial heating, including oil burners using dry steam or high pressure air for atomization, oil burners for low pressure air and combination burners. Gas burners, burner plates and refractory tiles are also described.

Reamers.—Gisholt Machine Co., Madison, Wis. Booklet. Size 7¾ in., 8 pages. Consists of large illustrations of Gisholt manufacturing reamers of various body types, interchangeable blade, and includes dimensions and list prices of all sizes.

Hammer Drills.—Chicago Pneumatic Tool Co., 6 East Forty-fourth Street, New York. Bulletin No. 639. Size 8 pages, 6 x 9 in. Describes the construction of the BQ-46 hammer drill, which is a standard drill of the hand rotated type. The illustrations include three applications of this drill.

Screw Plate Sets.—Pratt & Whitney Co., Hartford, Conn. Circular No. 264. Describes sets of taps and dies in various combinations selected to meet the requirements of the small shop, garage and general tool room.

Electric Solenoids.—Cutler-Hammer Mfg. Co., Milwaukee. Publication No. 873. Four pages, 8½ x 11 in. Bulletin describing iron-clad solenoids for direct current service and adapted for operating the brakes of crane, elevator and motor hoists. Dimensions and capacities are given.

High Speed Steel.—Vanadium Alloys Steel Co., Latrobe, Pa. Booklet. Size 3½ x 6½ in., 67 pages. Outlines the use, heat treatment, forging, annealing, hardening and tempering of high-speed steel in general and of Red Cut Superior steel in particular. A section is devoted to the grinding of high-speed steel, with acknowledgment to the Norton Co. The tables given include a comparison of the approximate net weight of high-speed and carbon tool steel rounds, standard classification of extras and tables for computing the weight of tool steel.

In a brief history of Engineering Council, a department of United Engineering Society from June, 1917, to Dec. 31, 1920, the work of the council over the war and post-war periods is reviewed. It followed various attempts of the Founder Societies, during several years, to deal with public questions affecting engineers, and with inter-society affairs. Its purpose was "to provide for convenient co-operation between the four Founder Societies, for the proper consideration of questions of general interest to engineers and to the public, and to provide the means for united action upon questions of common concern to engineers." It now gives place to the American Engineering Council of the Federated American Engineering Societies, the organization of which "has been practicable at this time only because of the work done by Engineering Council and of earlier attempts."

"Photographic Impressions of the World's Largest Shipyard" is the title of a 40-page booklet of the New York Shipbuilding Corporation, with general office and works at Camden, N. J. The story of the plant is told artistically with many photographs and printed words. "The complete facilities of the yard, greatly expanded by war-time demands, and the experience of over 20 years in the successful construction of passenger and cargo liners, naval vessels and such specialized types as oil tankers and colliers, are now directed to the building of over 40 ships, including two battleships and a battle cruiser for the United States Navy and the most important group of ocean liners now under construction."

Current Metal Prices

On Small Lots, Delivered from Merchants' Stocks, New York City

The quotations given below are for small lots, as sold from stores in New York City by merchants carrying stocks.

As there are many consumers whose requirements are not sufficiently heavy to warrant their placing orders with manufacturers for shipment in carload lots from mills, these prices are given for their convenience.

On a number of articles the base price only is given, it being impossible to name every size.

The wholesale prices at which large lots are sold by manufacturers for direct shipment from mills are given in the market reports appearing in a preceding part of THE IRON AGE under the general heading of "Iron and Steel Markets" and "Metal Markets."

Iron and Soft Steel Bars and Shapes

Bars:	Per Lb.
Refined bars, base price	3.23c.
Swedish bars, base price	12.50c.
Soft steel bars, base price	3.23c.
Hoops, base price	4.38c.
Bands, base price	3.93c.
Beams and channels, angles and tees 3 in. x ¼ in. and larger, base	3.23c. to 3.33c.
Channels, angles and tees under 3 in. x ¼ in., base	3.23c.

Merchant Steel

	Per Lb.
Tire, 1½ x½ in. and larger	3.23c.
(Smooth finish, 1 to 2½ x ¼ in. and larger)	3.43c.
Toe calk, ½ x ⅜ in. and larger	3.75c.
Cold-rolled strip, soft and quarter hard	10.00c. to 10.50c.
Open-hearth spring steel	4.50c. to 8.00c.
Shafting and Screw Stock:	
Rounds	4.73c.
Squares, flats and hex	5.23c.
Standard cast steel, base price	15.00c.
Best cast steel	20.00c.
Extra best cast steel	25.00c.

Tank Plates—Steel

¼ in. and heavier	3.23c. to 3.33c.

Sheets

Blue Annealed	Per Lb.
No. 10	4.23c. to 4.25c.
No. 12	4.28c. to 4.30c.
No. 14	4.33c. to 4.35c.
No. 16	4.44c. to 4.45c.

Box Annealed—Black

	Soft Steel C.R., One Pass Per Lb.	Blued Stove Pipe Sheet Per Lb.
Nos. 18 to 20	4.95c. to 5.18c.	.....
Nos. 22 and 24	5.00c. to 5.23c.	5.85c.
No. 26	5.05c. to 5.28c.	5.90c.
No. 28	5.15c. to 5.38c.	6.00c.
No. 30	5.40c. to 5.63c.	.....

No. 28, 36 in. wide, 10c. higher.

Galvanized	Per Lb.
No. 14	5.25c. to 5.38c.
No. 16	5.50c. to 5.63c.
Nos. 18 and 20	5.65c. to 5.78c.
Nos. 22 and 24	5.80c. to 5.93
No. 26	5.95c. to 6.08c.
No. 27	6.10c. to 6.23c.
No. 28	6.25c. to 6.38c.
No. 30	6.75c. to 6.88c.

No. 28, 36 in. wide, 20c. higher.

Welded Pipe

Standard Steel	Blk.	Galv.	*Wrought Iron*	Blk.	Galv.
½ in. Butt	—46	—30	¾ in Butt	—18	List
¾ in. Butt	—52	—37	1-1½ in. Butt.	—20	— 2
1/3 in. Butt	—54	—40	2 in. Lap	—14	+ 3
3½-6 in. Lap.	—49	—35	2½-6 in Lap	—18	— 2
7-12 in. Lap	—40	—24	7-12 in. Lap	— 7	+10

Steel Wire

BASED PRICE* ON NO. 9 GAGE AND COARSER	Per Lb.
Bright basic	4.75c.
Annealed soft	4.75c.
Galvanized annealed	5.50c.
Coppered basic	5.25c.
Tinned soft Bessemer	6.25c.

*Regular extras for lighter gages.

Brass Sheet, Rod, Tube and Wire

BASE PRICE

High brass sheet	18 c. to 21 c.
High brass wire	19¼c. to 21¾c.
Brass rod	17 c. to 20¾c.
Brass tube, brazed	32 c. to 35¾c.
Brass tube, seamless	21½c. to 23½c.
Copper tube, seamless	22½c. to 24½c.

Copper Sheets

Sheet copper, hot rolled, 24 oz., 21½c. to 22c. per lb. base.

Cold rolled, 14 oz. and heavier, 2c. per lb. advance over hot rolled.

Tin Plates

Bright Tin		Coke—14x20		
			Primes	Wasters
Grade "AAA" Charcoal 14x20	Grade "A" Charcoal 14x20	80 lb.	$7.80	$7.55
		90 lb.	7.90	7.65
		100 lb.	8.00	7.75
IC	$12.00	$10.75	IC	8.15	7.90
IX	13.75	12.25	IX	9.15	8.90
IXX	15.25	13.75	IXX	10.15	9.90
IXXX	16.50	15.00	IXXX	11.15	10.90
IXXXX	18.00	16.25	IXXXX	12.15	11.90

Terne Plates

8-lb. Coating 14 x 20

100 lb.	$8.35
IC	8.50
IX	9.50
Fire door stock	11.50

Tin

Straits pig	33c.
Bar	36c. to 38c.

Copper

Lake ingot	15c.
Electrolytic	15c.
Casting	15c.

Spelter and Sheet Zinc

Western spelter	6½c. to 7c.
Sheet zinc, No. 9 base, casks	12c. open 13c.

Lead and Solder*

American pig lead	5½c.
Bar lead	6 c. to 7 c.
Solder, ½ and ½ guaranteed	23c.
No. 1 solder	21½c.
Refined solder	17½c.

*Prices of solder indicated by private brand vary according to composition.

Babbitt Metal

Best grade, per lb.	80c.
Commercial grade, per lb.	40c.
Grade D, per lb.	35c.

Antimony

Asiatic	6½c. to 7c.

Aluminum

No. 1 aluminum (guaranteed over 99 per cent pure), in ingots for remelting, per lb. 30c. to 33c.

Old Metals

The market is unsettled and the tendency of dealers is to refrain from purchasing. Values are generally unchanged. Dealers' buying prices are nominally as follows:

	Cents Per Lb.
Copper, heavy and crucible	10.25
Copper, heavy and wire	9.25
Copper, light and bottoms	7.75
Brass, heavy	6.00
Brass, light	4.50
Heavy machine composition	9.75
No. 1 yellow brass turnings	5.25
No. 1 red brass or composition turnings	7.75
Lead, heavy	3.50
Lead, tea	2.50
Zinc	2.75